The Britz "Cold Fusion" Patent Index: 1989-2003

Abstracts of Patents Related to the Early Period of Low-Energy Nuclear Reaction Research

Sorted by Last Name of First Author

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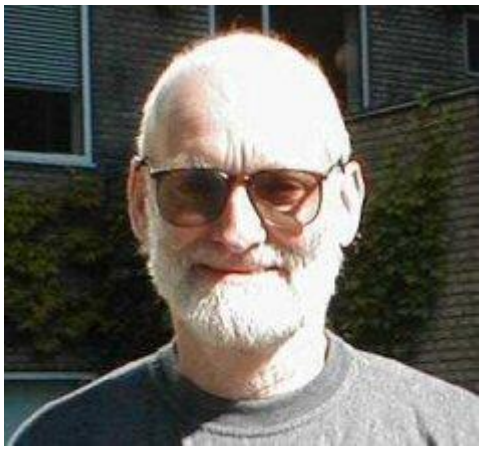
From 1989 to 2012, Dieter Britz, then a professor of chemistry at the University of Aarhus in Denmark, kept track of patents published on the subject, as it was called, of "cold fusion."

For each patent, Britz created a database record and wrote an abstract, summarizing the patent from his perspective. His source was *Chemical Abstracts*, which covered most of the world.



Dieter Britz

Dieter Britz, Ph.D. (Sydney Univ. NSW 1967)
Dipl. Comp. Sci. (Newcastle Univ. NSW 1985)
Dr.scient. (Aarhus Univ. 2007)
From 1.1.2010, Emeritus (formally retired)

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% No. of items: 251
@misc{P.Aher1993,
 author    = {B.~S. Ahern and K.~H. Johnson},
 title     = {Method of maximizing anharmonic oscillations
              in deuterated alloys},
 year      = {1993},
 note      = {U.S. US 5,411,654, 2-Jul-93},
 annote    = {"For a condensed-matter system contg. a guest interstitial
 species such as H or its isotopes dissolved in the condensed-matter host
 lattice, the invention provides tuning of the MO degeneracy of the host
 lattice to enhance the anharmonicity of the dissolved guest sublattice to
 achieve a large anharmonic displacement amplitude and a correspondingly
small
 distance of closest approach of the guest nuclei. The tuned electron MO
 topol. of the host lattice creates an energy state giving rise to degenerate
 sublattice orbitals related to the 2nd nearest neighbors of the guest
bonding
 orbitals. Thus, it is the nuclei of the guest sublattice that are set in
 anharmonic motion as a result of the orbital topol. This promotion of 2nd
 nearest neighbor bonding between sublattice nuclei leads to enhanced
 interaction between nuclei of the sublattice. In the invention, a method for
 producing dynamic anharmonic oscillations of a condensed-matter guest
species
 dissolved in a condensed- matter host lattice is provided. Host lattice
 surfaces are treated to provide surface features on at least a portion of
the
 host lattice surfaces; the features have a radius of curvature of <0.5
 mu. Upon dissoln. of the guest species in the treated host lattice in a
ratio
 of at least 0.5, the guest species undergoes the dynamic anharmonic
 oscillations". (Direct quote from Chem. Abstr. 123:20447)}
}

@misc{P.Arah1992,
 author    = {T.~Arahori},
 title     = {Electric generators using heavy water},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 05,333,176; 02-Jun-92.},
 annote    = {"The chem. reaction which occurs in electrolysis of water when
 Pd is used as a cathode is converted into elec. energy by a semiconductor. A
 small, quiet elec. generator can be prepd. which is easy to carry". (Direct
 quote from Chem. Abstr. 121:215637 (1994)).}
}

@misc{P.Arat1992,
 author    = {Y. Arata and G. Cho},
 title     = {Apparatus for nuclear fusion at room temperature},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,222,173, 01-Dec-92.},
 annote    = {"The title device comprises a pressure-resistant metal vessel
 contg. a metal powder having a high absorbtivity for D, a means of feeding
D2
 gas with high-pressure in the vessel, and a means to heat the vessel to an
 adequate temp. with the metal powder absorbing a sufficient amt. of D2. The
 D2 does not permeate the vessel. The vessel contg. the D2-absorbing metal
 powder is used as the cathode and an anode is provided, as well as an
 electrolyte soln."  (Direct quote from Chem. Abstr. 121:288411 (1994)).}
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}

@misc{P.Arat1994,
 author    = {Y. Arata},
 title     = {Generation of thermal energy by cold nuclear fusion},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 08 75,882 [96 75,882], Sep-94.},
 annote    = {"Ultrafine Pd powder is put in a stainless steel vacuum vessel,
 then the vessel is filled with D2 gas with pressure, the vessel is cooled
 with a cryostat to liquefy the D2, the liq. D2 is absorbed by the Pd until
 the Pd is satd. with the liq. D2, then the temp. of the vessel is raised to
a
 proper temp. to produce thermal energy based on cold nuclear fusion. Cold
 fusion can be carried out in a short time". (Direct quote from Chem.  Abstr.
 124:327077 (1996)).}
}

@misc{P.Arna1993,
 author    = {G. Arnaud},
 title     = {Device for nuclear fusion of hydrogen isotopes induced
              by ultrasound},
 year      = {1994},
 note      = {Fr. Demande FR 2,708,779, 25-Mar-93.},
 annote    = {"An app. is described for the use of thermal energy released by
 nuclear fusion of D when heavier nuclides are produced. The device comprises
 a hydridable sonotrode, e.g. Ti. At its low extremity, the sonotrode is
 drilled to make a chamber which contains an electrode. The D is fed into the
 device and a dielec. coolant fluid encircles the chamber. Nuclear fusion is
 produced inside the sonotrode which is penetrated by the H isotope. Two
 combined effects are manifested upon fusion: the pressure and the relaxation
 of the metal provoked by the propagation of ultrasound and electromagnetic
 induction due to the voltage applied between the electrode and the
sonotrode.
 The app.  is completed by a liq./gas phase separator, and exhaust vent for
 the escape of the reaction gases and the liq. coolant reservoir".  (Direct
 quote from Chem.  Abstr. 122:225011 (1995)).}
}

@misc{P.Arsh1992,
 author    = {A.~N. Arshinov and A.~B. Burtsev and L.~K. Grigoreva
              and A.~L. Lisitsyn and V.~Kh. Stankov and S.~P. Chizhik},
 title     = {Pulsed electrochemical converter of nuclear fusion energy
              and its operation},
 year      = {1992},
 note      = {Russ. RU 2046464 C1, Appl. 24-Nov-92.},
 annote    = {Title only translated. Cited in Chem. Abstr. 124:187771).}
}

@misc{P.Aspe1993,
 author    = {H. Aspen},
 title     = {Hydrogen-activated heat generation apparatus},
 year      = {1993},
 note      = {Brit. UK Pat. Appl. GB 2,278,491, May-93.},
 annote    = {"To research the generation of heat by promoting the fusion of
 protons or deuterons adsorbed by a host metal, the app. provides a
structural
 configuration by which the direction of heat flow through the metal is
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 transverse to the direction of an applied magnetic field. Thermal priming
 means, which may include precooling on the heat output side or elec. heating
 of the host metal, provide the initial temp. gradient triggering fusion.
A.C.
 activation of the magnetic field, the intensity of which may be enhanced by
 using Ni as the host metal, combined with a non-uniformity of the magnetic
 field, and/or heat flow through the metal, assure the abnormal presence of a
 residual neg. electron population in the metal. Such charge nucleates the
 merger of pos. charge and enhances the fusion process". (Direct quote from
 Chem. Abstr. 122:172413 (1995)).}
}

@misc{P.Assm1989,
 author    = {H. Assmann and G. Hofer and R. Hoffmann and J. Martin},
 title     = {Verfahren und Einrichtung zur Fusion von leichten Atomkernen
              (Method and apparatus for the fusion of light nuclei)},
 year      = {1989},
 note      = {Ger. Offenl. DE 39163397 A1, 19-May-89.},
 annote    = {.. especially of deuterium nuclei, from an electrolyte
containing
 these, or tritium, or lithium ions, in heavy water or superheavy water,
 etc. The special feature here is that the anode is made out of a material,
 such as Au, Pt or Pd, and is heated to over 100 degC, preferably to 1000
 degC, in order to partly dissolve and deposit on the Pd cathode, so as to
 activate it.}
}

@misc{P.Bagn1990,
 author    = {L. Bagnulo},
 title     = {A process, with relevant plants and devices, for the production
              of energy through the industrial application of plausible
              dynamics concerning controlled cold nuclear fusion},
 year      = {1990},
 note      = {Eur. Pat. Appl. EP 402,988 19-Dec-90.},
 annote    = {"...nuclear fusion in metals, esp. Pd and Ti, which readily
 absorb H and its isotopes. The process is based on the absorption by these
 metals, through electrolysis of [sic; 'or' meant?] gas-pressurising, of D or
 its mixts. with T or He, followed by their consequent liberation within
 cracks, created in the metal mass either by mech. or metallurgical means."
 (Direct quote from Chem. Abstr. 114:216542 (1991).}
}

@misc{P.Belt1989,
 author    = {G.~R. Belton},
 title     = {Cold nuclear fusion method and apparatus},
 year      = {1989},
 note      = {PCT Int. Appl. WO 90 13,124, 21. April 1989.},
 annote    = {"A method and app. are described for generating thermal energy
 by cold fusion by increasing the activity of a monoat. D species to a level
 at which there is significant cold fusion. The method and the app. comprise
 contacting Pd or any other material capable of taking up D with a gaseous
 atm. comprising D and subjecting the gaseous atm. to an elec. field to
 generate a sufficiently high activity of the monoat. D species to achieve
 nuclear fusion reactions in the Pd". (Quoted from Chem. Abstr. 115:17343
 (1991))}
}
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@misc{P.Bril1994,
 author    = {V.~L. Brilev and V.~E. Panin and Yu.~A. Khon},
 title     = {Production of neutrons and gamma-rays from a metal saturated
              with deuterium under action of a shock wave},
 year      = {1994},
 note      = {Russ RU 2,073,964, appl. 19-Sep-1994.},
 annote    = {No further information provided; title only translated by CA.}
}

@misc{P.Brum1990,
 author    = {G. C. Brumlik and G.~C. Cvijanovich and K. Johnson},
 title     = {Catalyzed nuclear fusion of heavy isotopes of hydrogen},
 year      = {1990},
 note      = {PCT Int. Appl. WO 90 16,070, 27-Dec-90.},
 annote    = {"A nuclear fusion device and method for D or T are described
 having a solid/ liq. phase of noble metals in contact with another phase
 contg. D or T where the nuclei of D or T are moved into the lattice of the
 liq. or solid noble metal by means of diffusion, mech. forces, or by elec.
or
 magnetic means to undergo temp.- and lattice-assisted nuclear fusion".
 (Direct quote from Chem. Abstr. 114:216545 (1991).}
}

@misc{P.Case1997,
 author    = {L.~C. Case},
 title     = {Coproduction of energy and helium from deuterium},
 year      = {1997},
 note      = {PCT Int. Appl. WO 9743768 A1 Nov-97.},
 annote    = {"Energy can be reliably produced by contacting D, in the
gaseous
 state, with a particularly active metallic catalyst, at en elevated temp.
The
 product of this process is 4He. Thus, the reaction appears to be
 D+D->4He+24MeV.  Only some fraction of metallic hydrogenation catalysts are
 active in this process, and it was not possible to predict in advance which
 candidate catalysts will be active, so a simple screening test was devised
to
 identify the specifically active catalysts. The most promising catalysts for
 this process may be certain types of supported Pt-group metals (PGM). Pd
 appears to be a favored metal, although Pt, and possibly other PGMs are also
 active. It is envisioned that the procedure can be scaled up to produce
 com.-scale energy by running steam tubes through the catalyst bed, and
 removing the heat produced as steam". (Direct quote from
 Chem. Abstr. 128:16972 (1998)).}
}

@misc{P.Case2001,
 author    = {L.~C. Case},
 title     = {Commercial power production by catalytic fusion
              of deuterium gas.},
 year      = {2001},
 note      = {U.S. Pat. Appl. Publ. Cont.-in-part of U.S. Ser. No. 713,302,
              abandoned. US  20010040935  A1  20011115.},
 annote    = {A new, cost-effective, process for com.-scale prodn. of power
by
 catalytic fusion of D2 gas, under moderate conditions of temp. and pressure
 is developed.  This process can be scaled up to any desired size, and can
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 employ a variety of "hydrogenation" catalysts, both precious metal, and
 non-precious metal.  Briefly, the process comprises absorbing D2 gas in or
on
 the selected catalyst, then bringing the temp. into the range of very
roughly
 150.degree. to 250.degree. C., and then degassing the catalyst bed under
 reduced pressure.  The process is necessarily run on a cyclic basis, with a
 multiplicity of catalyst bed entities, with one or more being in the
 D2-absorption mode, concurrently with one or more being in the
 heat-generation node. (Direct qquote from Chem. Abstr. 135:349381 (2001)).}
}

@misc{P.Cedz1991,
 author    = {K. Cedzynska and D.~C. Linton and F.~G. Will},
 title     = {Method for consistent reproduction of high deuterium loading
              and tritium gereration [sic] in palladium electrodes},
 year      = {1991},
 note      = {PCT Int. Appl. WO 93 01,601, 11-Jul-91.},
 annote    = {"Isotopic hydrogen is electrolytically loaded into a Pd or Pd
 alloy electrode by alternately charging and discharging the electrode in a
 plurality of cycles, each cycle including charging the electrode with
 isotopic hydrogen approx. to a satn. level and then discharging the
electrode
 to a predetd.  retention level. The electrode can be palladized by
 electrodeposition of a thin coating of Pd black, then preloaded in deuterium
 gas at atm. pressure, and then transferred to an electrochem. cell where the
 alternate charging and discharging takes place for a total of 4-5
 times". (Direct quote from Chem.  Abstr. 118:178707 (1993)).}
}

@misc{P.Chik1993,
 author    = {T. Chikuma},
 title     = {Cold nuclear fusion apparatus},
 year      = {1993},
 note      = {Eur. Pat. Appl.  EP 645,777, 27-Sep-93.},
 annote    = {"A cold nuclear fusion app. which is high in com. value is
 described, where the screening effect and a cooperative phenomenon are
 enhanced for a substance undergoing nuclear fusion after being occluded into
 an occlusion member to promote a nuclear fusion reaction and the time, the
 magnitude, etc. of the occurrence of nuclear fusion can be controlled. An
 excitation app. for promoting nuclear fusion of a substance occluded in a
 reactor in a reaction vessel from the outside is provided in close contact
 with a portion of the reactor. The excitation app. includes >= 1 of a
 battery, a magnetic flux generator, a heating unit, an ultrasonic wave
 generator, a laser light irradn.  app. and a high-voltage discharge app.
 Also, a confinement app. for preventing the substance, occluded in the
 occlusion member and undergoing fusion, from escaping to the outside of the
 occlusion member is provided".  (Direct quote from Chem. Abstr. 122:250505
 (1995)).}
}

@misc{P.Chik1994,
 author    = {T. Chikuma},
 title     = {Cold nuclear fusion apparatus},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 07287085, Apr-94.},
 annote    = {"The title app. is equipped with a means around an absorbent
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 (such as Pd or ceramic) which absorbed a material (such as D) which starts
 the nuclear fusion to prevent the absorbed material from escaping from the
 absorbent. The means is a magnetic coil. The means may comprise an absorbent
 (which is a cathode), an elec. conductive layer (which is used as an anode)
 is formed around the absorbent via an elec. insulator, and voltage is
 applied.  The efficiency of the nuclear fusion is improved".  (Direct quote
 from Chem. Abstr. 124:69504 (1996)).}
}

@misc{P.Chik1995,
 author    = {T. Chikuna},
 title     = {Method and apparatus for collecting occluded hydrogen atomic
              nuclei},
 year      = {1995},
 note      = {Eur. pat. Appl. EP 724,269, Jan-95.},
 annote    = {"The invention provides a H at. nucleus collecting method and
 app. by which a high concn. of aggregated H at. nuclei after occluded into a
 H occluding substance can be achieved to facilitate confirmation or
detection
 of an actually occurring phenomenon. A collecting neg. electrode is disposed
 in the proximity of an end portion of a H occluding substance which occludes
 H at.  nuclei. A collecting pos. electrode is disposed spirally around the H
 occluding substance and cooperates with the collecting neg. electrode to
 produce a conical elec. field whose elec. lines of force converge from the
 collecting pos. electrode toward the collecting neg. electrode. By the
 conical elec. field, H at. nuclei occluded in the H occluding substance are
 collected to the end portion of the H occluding substance" (Direct quote
from
 Chem.  Abstr. 125:153143 (1996)).}
}

@misc{P.Chmi1989,
 author    = {A.~G. Chmielewski and W. Smulek and W. Dembinski and L. Fuks},
 title     = {Method for conducting a controlled thermonuclear reaction},
 year      = {1989},
 note      = {Pol. PL 157,868,  06-Apr-1989.},
 annote    = {"The controlled thermonuclear reaction was carried out using D
 or T (in mixt. with neutral gas) which diffused across the Pd or its alloy
 membrane at elevated temp. between the pressure and vacuum chambers. The
 membrane could be from Pd or Pd-Ag alloy in a form of the dense of [sic]
 porous foil. The Pd foil was grounded or connected in series with an
 electrolytic cell. Diffusion was carried out at 300-1000 deg, preferable
 [sic] at 500-600 deg. Mixts. of D or T with H, He, Ar, N or their mixts
could
 be used". (Direct quote from Chem. Abstr. 119:169078 (1993)).}
}

@misc{P.Chub2003a,
 author    = {T. A. Chubb},
 title     = {Apparatus for generating nuclear heat},
 year      = {2003},
 note      = {Application: US  2003-696645 20031030.},
 annote    = {A D-fueled nuclear heat source is described in which D flows
out
 of an elec. polarized solid electrolyte layer on to a metal reactor plate
and
 then D flows out of the metal reactor plate into a 2nd polarized solid
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 electrolyte layer where the reactor plate contains >=1 diffusion-impeding
 nonmetallic layer.  The diffusion-impeding nonmetallic layer is made of CaO
 and the metal plate may be made of Pd or Pd alloy.  The solid electrolyte
 layer is made of polyethylene oxide contg. deuterated phosphoric acid.
 (Direct quote from Chem. Abstr. 142:453326)}
}

@misc{P.Chub2003b,
 author    = {T. A. Chubb},
 title     = {Apparatus for generating nuclear heat},
 year      = {2003},
 note      = {Application: US  2003-696516 20031030.},
 annote    = {A D-fueled nuclear heat source is described in which D flows
out
 of an elec. polarized solid electrolyte layer on to a metal reactor plate
and
 then D flows out of the metal reactor plate into a 2nd polarized solid
 electrolyte layer where the reactor plate contains >=1 diffusion-impeding
 nonmetallic layer.  The diffusion-impeding nonmetallic layer is made of CaO
 and the metal plate may be made of Pd or Pd alloy.  The solid electrolyte
 layer is made of polyethylene oxide contg. deuterated phosphoric acid.
 (Direct quote from Chem. Abstr. 142:453325).}
}

@misc{P.Coup1990,
 author    = {D.~R. Coupland and M.~L. Doyle and R.~J. Potter and Ir.
McGill},
 title     = {Cold-fusion support},
 year      = {1990},
 note      = {},
 annote    = {"Materials are described which are effective to support cold
 fusion when loaded with D, e.g. Pd modified to change the local environment
 for D under cold fusion conditions. Particular modifications are alloys or
 dispersions of Pd with Ce, Ag, LaNi5, and Ti. Other modifications concern
the
 grain size.  Excess heat and T and n have been detected". (Direect quote
from
 Chem. Abstr.  114:216546 (1991).}
}

@misc{P.Crou1991,
 author    = {S. Crouch-Baker and M.~C.~H. McKubre and S.~I. Smedley
              and F.~L. Tanzella},
 title     = {Apparatus for producing heat from deuterated palladium alloys},
 year      = {1991},
 note      = {PCT Int. Appl. WO 93 00,684, 27-Jun-91.},
 annote    = {"An electrolysis system for generating excess heat has a d.c.
 source coupled between an anode and a cathode, with both electrodes immersed
 in an electrolyte. The source drives elec. current through the electrolyte
 from the anode to the cathode. The electrolyte is typically a soln. of LiOD
 and boric acid in heavy water. The cathode comprises primarily of Pd to
 become loaded with B and D, which substantially increases the efficiency of
 the excess heat prodn. and lowers the current threshold for excess heat
 generation. In an alternative version, the surface of the cathode is
 fabricated from an alloy of B and Pd". (Direct quote from
 Chem. Abstr. 118:178706 (1993)).}
}
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@misc{P.Crou1992,
 author    = {S. Crouch-Baker and C.~H. McKubre and S.~L. Smedley
              and F. Tanzella},
 title     = {Apparatus for storing isotopes of hydrogen},
 year      = {1992},
 note      = {PCT Int. Appl. WO 94 15,342, Dec-92.},
 annote    = {"An electrolysis system for altering the storage capacity of a
 metal cathode for H isotopes has a d.c. source coupled between an anode and
a
 cathode, with both electrodes at least partially immersed in an electrolyte.
 The current source drives elec. current through the electrolyte from the
 anode to the cathode. The electrolyte is typically a soln. of LiOD and H3BO3
 in D2O.  The metal cathode is typically Pd. The current flow through the
cell
 causes the Pd to become loaded with B and D, which substantially increases
 the efficiency of excess heat generation. In an alternative version, the
 surface of the cathode is fabricated from an alloy of B in Pd." (Direct
quote
 from Chem. Abstr. 121:189680 (1994)).}
}

@misc{P.Daru1993,
 author    = {L. Daruhazi and O.~H. Pinter},
 title     = {Method for producing excess energy and neutron radiation
              in the mixture of the light atoms solved in current-carrying
              material immersed in electrolyte and/or of the isotopes of said
              atoms, respectively in the interfacial double layer
              of the electrolyte},
 year      = {1993},
 note      = {Hung. Teljes HU 71,652, Sep-93.},
 annote    = {"A claim is made for cold fusion of light atoms in the
 interfacial double layer of an electrolyte. The electrodes are placed at
 min. 10 mm and immersed in the electrolyte". (Direct quote from
 Chem. Abstr. 124:326752 (1996)).}
}

@misc{P.Davi1990,
 author    = {F. David},
 title     = {Dispositif permettant de confiner dans une phase solide
              des noyaux d' atomes legers},
 year      = {1990},
 note      = {Fr. Pat. FR 9006329, appl. May-90.},
 annote    = {To increase the voltage applied to deuterons in metals, the
 deuterated metal is stuck to a semiconductor (Si). and pulses are applied to
 this junction.  Fusion is thus aided.}
}

@misc{P.Davi1995,
 author    = {F. David},
 title     = {Procede de preparation des dechets tries en vue de traitment
              et dispositif de traitment},
 year      = {1995},
 note      = {Fr. Brev. d'Invention, reg. no. 95 00247, subm. Jan-95.},
 annote    = {This describes what amounts charging Pd with tritium (and
 deuterium) and thereby letting them fuse with each other, producing helium.
 This not only releases energy (heat) but also gets rid of tritium, a
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 dangerous nuisance substance.}
}

@misc{P.Day1994,
 author    = {R.~A. Day and K.~A. Rubinson},
 title     = {Hydride condensation process},
 year      = {1994},
 note      = {PCT Int. Appl. WO 96 06,434, 18-Aug-94.},
 annote    = {"A process is described for the generation of energy and the
 conversion of D into T. The above effects are achieved when a deuteride
 source is maintained so as to form an interface in the presence of a
 pos. polarized metal. Thus, LiD was added to molten Al and heated to 650 C
 with a thermocouple. In 20 min the cell potential rose from 0 to 1.105 V. At
 650 C the ionization meter indicated evolution of T. Scintillation of the
 nonconducting gases by conversion to water gave a T yield of 8 nCi, and an
 addnl. 28.1 nCi was found by reaction of the remaining cold solid. An
 elec. potential may also be used to drive the reaction." (Direct quote from
 Chem. Abstr. 124: 354785 (1996)).}
}

@misc{P.Dies1990,
 author    = {K.~F. Dies},
 title     = {Process for the generation of fusion energy by the use of
              Fe-(2)M alloys, which are produced by electrolysis
              as well as by lysis (etching)},
 year      = {1990},
 note      = {Ger. Offenl. DE 3913002 A1, 25.10.1990.},
 annote    = {The title has "Fe-(2)M" but the abstract has the more probable
 "(2)H-Fe", i.e. Fe-D compounds ("alloys"). There may be additions of such
 iron-group metals as Cr, Ti, Zr, Mn etc, to enhance deuteride stability. Pt
 or Pd can also be used. Both with electrolysis and etching in deuterated
 acids such as DCl, DF, DBr, D2SO4 and HNO3, the metal is infused with
 deuterium, and we have "etch fusion", a new word. Fe, Ni or Co rods can be
 used either normal or in the austenitic form.}
}

@misc{P.Doke1991,
 author    = {H. Doke},
 year      = {1991},
 note      = {Jpn. Kokai Tokkyo Koho JP 07 77,588, Apr-91.},
 annote    = { "A porous spnky electrode is prepd. by putting a large no. of
 fine particles of Pd or Ti in an electrode-shaped mold, heating with
 compression using radiofrequency or electromagnetism to make it undergo
 semi-fusion. The electrode is mech. vibrated at high speed to increase the
 reaction rate. The electrode area is increased from 10- to 10,000-fold, and
 the probability of the nuclear collision is increased 2*pi*f-fold (f = cycle
 no. of vibration)".  (Direct quote from Chem. Abstr. 122:301149 (1995)).}
}

@misc{P.Doke1992,
 author    = {H. Doke},
 title     = {Cylindrical plated vibrating electrodes for room-temperature
              nuclear fusion},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06 18,683, 03-Jul-92.},
 annote    = {"A room-temp. nuclear fusion material, such as Pd or Ni, is
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 plated onto a Ni plate which is then used as a cathode in heavy water, and
it
 is vibrated at a high speed using magnetostriction vibration to bring about
 nuclear fusion.  By adjusting the amplitude of the vibration, the nuclear
 fusion can be controlled and the output power can be controlled. The
 probability of room-temp. nuclear fusion is promoted". (Direct quote from
 Chem. Abstr.  121:215639 (1994)).}
}

@misc{P.Drex1990a,
 author    = {J. Drexler},
 title     = {Deuterium accumulator for energy conversion},
 year      = {1990},
 note      = {PCT Int. Appl. WO 91 18,396, 17-May-90.},
 annote    = {"Method and app. are described promoting electrolyte ionization
 of high purity heavy water (contg. (6)LiOD), thereby producing d and Li ions
 that are accelerated by an alternating voltage. These are swept through a
 matrix of suspended D absorbing and Li-absorbing particulates and collected
 in the interior of said particulates. The electrodes are spaced apart and
 immersed in the liq. with an alternating voltage between them. The matrix of
 suspended particulates is located between the 2 electrodes. When the D and
Li
 ions pass through the particle matrix, a fraction of ions strike the
 particulates and are absorbed into them. The D and Li ions which are
absorbed
 in the particulates may fuse or otherwise combine to produce heat energy".
 (Direct quote from Chem. Abstr. 116:160964 (1992)).}
}

@misc{P.Drex1990b,
 author    = {J. Drexler},
 title     = {Deuterium accumulation energy conversion apparatus},
 year      = {1990},
 note      = {PCT Int. Appl. WO 91 18,397, 17-May-90.},
 annote    = {"Method and app. are described for promoting (6)LiOD
electrolyte
 ionization of heavy water to produce d and lithons that are accelerated by
an
 a.c.  voltage and swept back and forth through a d and lithon-permeable and
 absorptive accumulator and collected in the interior of the accumulator. Two
 elec. insulated electrodes are spaced apart and immersed in the liq. with an
 a.c. voltage impressed between them. The accumulator is positioned between
 the 2 electrodes and forms a structure through which the ions may flow, and
 which consists of a material that readily absorbs the D and the lithons that
 would otherwise flow toward the instantaneous neg. voltage electrode. The
 instantaneous neg. electrode is elec. insulated from the d and lithons,
which
 cannot pick up a free e. Thus, the d and lithons are not converted to
 unwanted D atoms and gas. Deuterons and lithons, absorbed into the
 accumulator may fuse or otherwise combine to produce heat energy". (Direct
 quote from Chem. Abstr. 116:160963 (1992)).}
}

@misc{P.Drex1990c,
 author    = {J. Drexler},
 title     = {Distributed deuterium-lithium energy apparatus},
 year      = {1990},
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 note      = {},
 annote    = {"A method and app. are described for prodn. of thermal energy
 through electrolyte ionization of D2O using a (6)LiOD electrolyte, with
 dissolved D gas in the heavy water, and pumping the ionized heavy water over
 a bed of Pd metal particulates, foils, or porous baffles to collect both D
 and (6)Li ions to facilitate ion-ion combination. No electrodes are used to
 achieve the fusion process. The container is a closed system such as a loop
 or helix to permit continuous cycling of the ionized heavy water over the Pd
 ion collector again and again to absorb the max. no. of ions and to reuse
the
 kinetic energy of the pumped water flow and the thermal energy added to the
 heavy water.  Porous or perforated baffles are used to contain the Pd
 accumulator structure when it is in the form of particulates or loose
 components. Perforated baffles made of Pd may also be used as the
accumulator
 structure". (Direct quote from Chem. Abstr. 116:160962 (1992)).}
}

@misc{P.Drex1990d,
 author    = {J. Drexler},
 title     = {Deuterium energy accumulation},
 year      = {1990},
 note      = {PCT Int. Appl. WO 91 15,017,  23-Mar-90.},
 annote    = {"Method and app. are described for promoting electrolyte
 ionization of heavy water to thereby produce D ions that are accelerated by
 an elec. field and collected in the interior of an accumulator. Neg. and
 pos. electrodes, spaced apart, are immersed in the liq. with an approx.
 const. voltage impressed between them. An ion accumulator substantially
 surrounds the neg.  electrode, is formed of an accumulator material through
 which the ions may flow, and has a metal that readily absorbs D at its
 surface. The accumulator material can absorb a fraction of the D ions that
 would otherwise flow to the neg. electrode. D ions, absorbed into the
 accumulator material, may produce heat energy by cold fusion therein."
 (Direct quote from Chem. Abstr.  116:115385 (1992)).}
}

@misc{P.Drex1991,
 author    = {J. Drexler},
 title     = {Distributed accumulator for energy conversion},
 year      = {1991},
 note      = {PCT Int. Appl. WO 91 02,359, 21-Feb-91.},
 annote    = {"A cell is described for producing thermal energy by absorption
 or adsorption of D and lithon into D ion-permeable and li-ion-permeable
 particulates supported on a surface of an accumulator in the form of a mesh,
 rods, sheets, or membranes, or within a gelatin-like matrix. Deuterons and
 lithons are produced by electrolyte ionization in a liq. contg. high purity
 D2O, and net elec. charge on a D-permeable and lithon-permeable particulate
 is controlled by allowing neg. charged OD- radicals to accumulate on the
 surface of the particulates that balance out the pos. charged deuterons and
 lithons".  (Quoted from Chem. Abstr. 114:2554494 (1991)).}
}

@misc{P.Drex1993,
 author    = {J. Drexler},
 title     = {Self-catalyzed nuclear fusion of lithium-6 and deuterium
              using alpha particles},
 year      = {1993},
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 note      = {PCT Int. Appl. WO 94 16,446, Jan-93.},
 annote    = {"A method and app. are described for nuclear fusion of 6Li and
D
 ions at ambient temp. yielding alpha-particles and thermal energy. Ion pairs
 of Li and D are accumulated and densely packed into a metallic lattice,
 approaching each other closely or combining into LiD mols. The alpha
 particles are then emitted into the lattice which have [sic] an energy
 sufficient to cause the nuclei of the Li and D atoms to fuse by compressive
 interaction of their nuclei within the lattice. Upon fusion, secondary
 high-energy alpha-particles are emitted which cause addnl. fusions and
 alpha-particles [sic] emissions. In this manner, a continuous cycle of
 fusions and high-energy alpha-particle emissions is initiated, resulting in
a
 self-sustaining nuclear fusion chain reaction occurring at or near room
 temp." (Direct quote from Chem. Abstr. 121:165726 (1994)).}
}

@misc{P.Dufo1989a,
 author    = {J. Dufour},
 title     = {Energy source system},
 year      = {1989},
 note      = {S. African ZA 90 05,389, 11-Jul-89.},
 annote    = {"Energy is produced by: loading a body with >=1 H isotope where
 at least a part of the body comprises >=1 metal capable of forming a metal
 hydride-type lattice system; arranging the body as an electrode of a
 capacitor means in an elec. circuit along with another electrode connected
 with an externally controllable voltage supply means; operating the voltage
 supply means; and recovering energy produced in the body by operating the
 voltage supply means.  The system produces energy by a process commonly
known
 as cold fusion".  (Direct quote from Chem. Abstr. 115:242246 (1991)).}
}

@misc{P.Dufo1989b,
 author    = {J.~J.~J. Dufour},
 title     = {Energy source},
 year      = {1989},
 note      = {Fr. Demande FR 2,655465, 01-Dec-89.},
 annote    = {"A method and app. for prodn. of energy by nuclear fusion is
 described comprising: filling a body with ions or radical of >= 1 isotopes
of
 H, forming at least in a part of the body a metal hydride-type lattice;
using
 the above body as a conductor of a capacitance system inside an elec.
 circuit, the other conductor being connected to a source of electricity; and
 recovering the energy produced inside the body when elec. voltage is
 applied".  (Direct quote from Chem. Abstr. 116:70223 (1991)).}
}

@misc{P.Eccl2000,
 author    = {C.~R. Eccles},
 title     = {Energy generation from hydrogen and/or deuterium atoms},
 year      = {2000},
 note      = {PCT Int. Appl. WO 2000025320 A1 4 May 2000, 36 pp.},
 annote    = {"Methods and app. are described for releasing energy from
 hydrogen and/or deuterium atoms.  An electrolyte is provided which has a
 catalyst therein suitable for initiating transitions of hydrogen and/or
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 deuterium atoms in the electrolyte to a subground energy state.  A plasma
 discharge is generated in the electrolyte to release energy by fusing the
 atoms together." (Direct quote from Chem. Abstr. 132:299987 (2000)).}
}

@misc{P.Forr1989,
 author    = {F. Forrat},
 title     = {Reactor for electrolytic nuclear fusion in solid electrolyte},
 year      = {1989},
 note      = {},
 annote    = {"The title reactor comprises a solid electrolyte, e.g. glass,
 crystal, ceramics, electrolytically or chem.-vapor deposited film. An
 a.c. current is applied to generate fusion and heat energy is recovered by a
 fluid. The reactor can be used for isotope prodn." (Quoted direct from
 Chem. Abstr.  115:101349 (1991)).}
}

@misc{P.Forr1990,
 author    = {F. Forrat},
 title     = {Electrolytic nuclear fusion reactor},
 year      = {1990},
 note      = {Fr. Demande FR 2,663,775, 26-Jun-90.},
 annote    = {"The title reactor using a solid electrolyte comprises a
 transparent confinement enclosure which allows transfer of energy between
 electrolytes, and a receptor equipped with a thermal or elec. converter. The
 reactor requires reduced maintenance and can be used to produce energy in
the
 kilowatt region". (Direct quote from Chem. Abstr. 117:99456 (1992)).}
}

@misc{P.Fuji1989,
 author    = {A. Fujishima and K. Ito},
 title     = {Controlling cold nuclear fusion based on electrochemistry},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 06,490, 5-Jun-89.},
 annote    = {"In controlling cold nuclear fusion based on electrochem., a
 cathode contg.  a temp.-controlling device is used to adjust the temp. of
the
 anode".  (Quoted from Chem. Abstr. 115:59226 (1991)).}
}

@misc{P.Fuji2000,
 author    = {R. Fujita},
 title     = {Apparatus and method for reduction of nuclear waste fuel},
 year      = {2000},
 note      = {Jpn. Kokai Tokkyo Koho JP 2000131489 A2 12 May 2000, 9 pp.},
 annote    = {"The invention relates to an app. and method for recycling a
 used oxide nuclear fuel by reducing to a metallic state using metal lithium
 according to electrolysis in a molten salt in a nuclear waste fuel container
 immersed in the molten salt, wherein the app. has a lithium cathode as a
part
 of the nuclear waste fuel container.  App. with nuclear waste container
 integrated with the lithium cathode provides the accelerated redn., the
 simplified app.-operating, and the improved lithium recycling efficiency".
 (Direct quote from Chem. Abstr. 132:340388 (2000)).}
}
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@misc{P.Fuka1989,
 author    = {A. Fukami and H. Kumafuji},
 title     = {Lanthanum nickel cathode for electrolytic exothermic tritium
              formation},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,35,193 3-Jul-89.},
 annote    = {"The cathode consists of Pd-coated LaNi5 alloy used in
 (3)H-formation by electrolyzing an electrolytic soln. contg. D2O and small
 amt. base with a Pt anode and a cathode to produce larger energy than
 required for the electrolysis. The cathode may be built in a porous Al2O3
 container instead of Pd-coating. The cathode had high H absorption". (Direct
 quote from Chem.  Abstr. 115:80705 (1991))}
}

@misc{P.Fuku1995,
 author    = {M. Fukuhara},
 year      = {1995},
 title     = {Heat generator utilizing the reaction of deuterium-containing
              alloy in dynamic ultrasonic wave},
 note      = {Jpn. Kokai Koho JP 08,194,079, 13-Jan-95},
 annote    = {"A D-contg. alloy (made of >= 1 of metal of Group IV or VIII
 elements such as Pd and/or Ti) at a temp. lower than room temp. (between
room
 temp. and liq.  N temp.) is irradiated with dynamic ultrasonic wave, thereby
 the alloy is brought to a state of nonequil. high-temp. and high-pressure to
 induce a reaction, the resulting excess heat is transported to a heat
 exchanger by a pressurized medium (such as pure H2O or He gas) and is
 circulated for using. A large amt. of heat can be generated easily and
 economically without air pollution and waste prodn. (Direct quote from
 Chem. Abstr. 125:259415 (1996)).}
}

@misc{P.Furu1992a,
 author    = {C.~Furuya},
 title     = {Encapsulation of heavy hydrogen and method for cold nuclear
              fusion},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,148,366; 30-Oct-92.},
 annote    = {"A heavy hydrogen-absorbing metallic cathode (such as Pd alloy,
 Ti) is used to conduct electrolysis of heavy water. After heavy hydrogen is
 absorbed by the cathode, a barrier layer (such as Hg, Au, Ag, Cu, Sn, In, or
 Zn) is deposited on the cathode by electroless or electrochem. deposition. A
 local temp. difference is imposed at the cathode to bring about cold nuclear
 fusion.  A high heavy hydrogen absorption state can be maintained and the
 cold nuclear fusion can be brought about easily". (Direct quote from
 Chem. Abstr.  121:240377 (1994)).}
}

@misc{P.Furu1992b,
 author    = {C.~Furuya},
 title     = {Electrolysis of heavy water, cold nuclear fusion, and
extraction
              of the energy produced from cold nuclear fusion},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,160,560; 20-Nov-92.},
 annote    = {"A barrier layer which does not allow permeation of heavy H is
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 formed on 1 side of a pipe- or plate-shaped heavy H-absorbing alloy to form
a
 cathode. A wire- or plate-shaped Pt is used as an anode. A heat-conducting
 medium is passed to or in contact with the barrier layer side of the
cathode,
 and with control of the temp. heavy H is produced and absorbed on the other
 side of the cathode. Cold nuclear fusion is carried out by controlling the
 c.d. and the temp. at the barrier layer side during electrolysis, and excess
 heat is generated from the cathode with absorbed heavy H. The excess energy
 of the cathode generated by cold nuclear fusion is extd. from the barrier
 layer side by using the heat-conducting medium". (Direct quote from
 Chem. Abstr.  121:240380 (1994)).}
}

@misc{P.Furu1992c,
 author    = {C. Furuya},
 title     = {Method for generating deuterium for cold nuclear fusion
              and for obtaining electric power},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,171,905, 11-Dec-92.},
 annote    = {"A cell is formed by using a D2O soln. contg. D2SO4 as the
 electrolyte, a metal with a potential less noble than H as the cathode, and
a
 gas-diffusion anode comprising (1) a gas diffusion layer with only
 hydrophobic pores and (2) a catalyst-deposited reactive layer with
 hydrophilic and hydrophobic pores. For the cathodic reaction, the metal is
 dissolved and for the anodic reaction D is generated from the diffusion
layer
 side of the gas-diffusion electrode. A high-purity D2 can be manufd.
 efficiently and elec. power can be generated also". (Direct quote from
 Chem. Abstr. 122:145163 (1995)).}
}

@misc{P.Gamo1990a,
 author    = {T. Gamo and J. Niikura and N. Taniguchi and K. Hatoh
              and K. Adachi},
 title     = {Apparatus for cold nuclear fusion},
 year      = {1990},
 note      = {European Pat. Appl. EP 0 395 066 A2, 26.04.1990.},
 annote    = {Prepared by a German representative (patent lawyer?), this
 incredibly badly written patent application claims a number of "preferred
 embodiments" for cold fusion. One is electrolysis at a cathode of an alloy
 capable of occluding hydrogen isotopes, such as Ti, Zr, and the like, in an
 electrolyte containing a compound of hydrogen isotope and oxygen such as
 heavy water including alkali metal ions such as Li+, K+ and the like.
 "Tritiums", "noutrons" may be produced by making use of "lithiums" and by
the
 "tonnel" effect. There is a list of example alloys for use as cathode, all
 having larger hydrogen occlusion ability than "Pb" and the like. An example
 shows that at the end of an electrolysis, 5 times the starting concentration
 of T is found, proving that cold fusion had taken place. Also, 500 neutrons
 of 2.45 MeV were detected or 10 times the background. In the second
preferred
 embodiment, some amorphous alloys are used, not having "a crystal lattice
 rule of a long period", meaning (presumably) no long-range order. Some of
 these appear to have a rather high hydrogen uptake. Crumbling was never
 observed and again, excess tritiums are seen. The third embodiment uses a
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 large (7 mm diameter) spherical cathode. In this way, the collision
 probability for deuterons is enhanced in the centre of the electrode and in
 this way, the nuclear fusion reaction was caused easily and an enormous
 energy was obtained (I am quoting). Two to ten times the background neutron
 count was detected in an example. In another example, two spherical alloy
 samples were charged with D2 gas, and then a high-frequency discharge passed
 between them. Neutrons at 1000 times the background was observed; using pure
 H2, the neutron flux was the same as the background.  Temperature cycling
was
 also tried, and neutrons detected.}
}

@misc{P.Gamo1990b,
 author    = {K. Gamo and M. Watanabe and J. Niikura and N. Taniguchi
              and M. Baba and K. Kawamura},
 title     = {Apparatus for cold nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 04 93,693, 3-Aug-90.},
 annote    = {"In a cold-nuclear-fusion app., which has a cathode that
adsorbs
 a H isotope (e.g. D), and an anode from a metal (or its oxide or hydroxide)
 immersed in an electrolyte contg. a H isotope, the cathode has a part where
 c.d. is locally increased. The cathode may locally contain an impurity
 (alkali or alk.-earth metal)". (Direct quote from 117:180351 (1992)).}
}

@misc{P.Gent1991,
 author    = {H. Gentsch},
 title     = {Electrode system for deuterium fusion in solid and for
             fuel supply by electrolysis},
 year      = {1991},
 note      = {Ger. Offen. DE 4,130,276, 12-Sep-91.},
 annote    = {"The title system comprises a Pd alloy membrane tube sepg. a
 vacuum chamber and an electrolysis cell. An ion gun is placed inside the
 membrane tube where the tube has a pos. potential and also serves as the
 cathode. The cathode is placed in D2O as electrolyte. The ion gun produces d
 beams with high energy up to 27 keV. There is significant diffusion of D in
 the Pd alloy reaching a high d". (Direct quote from Chem. Abstr. 119:58135
 (1993)).}
}

@misc{P.Goto1994,
 author    = {N. Goto and T. Ito and Y. Iwamura},
 title     = {High occlusion of hydrogen in a hydrogen-occluding metal},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 08,166,478 [96,166,478], Dec-94.},
 annote    = {"A H-occluding metal (such as Pd or its alloy) is used as a
 cathode in the electrolysis of light or heavy water to occlude light or
heavy
 hydrogen in the cathode, followed by electroplating a metal (such as Cu) on
 the cathode. The diffusion of light or heavy hydrogen from the inside of a
 metal to the outside is prevented". (Direct quote from Chem.  Abstr.
 125:179818 (1996)).}
}

@misc{P.Grab1992,
 author    = {K. Grabowski and J. Eridon and G. Chambers and G. Hubler},
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 title     = {Generating high-energy nuclear reaction},
 year      = {1992},
 note      = {U.S. Pat. Appl. US 823,748, appl. 22-Jan-92.},
 annote    = {"In a method and app. for producing an exoergic nuclear
reaction
 (cold nuclear fusion) a target made of solid material is positioned in a
 vacuum chamber contg. D gas and having an operating pressure below atm.
 pressure. The target is bombarded with a d ion beam produced by an electron
 cyclotron resonance microwave plasma source". (Direct quote from
 Chem. Abstr. 118:221741 (1993)).}
}

@misc{P.Grue1989,
 author    = {W. Gruendler and K.~H. Heckner and H.~J. Heidrich
              and A. Herbst and C. Jung and L. Mueller},
 title     = {Material combination for electrochemicallly or chemically
              induced nuclear fusion and method of its preparation},
 year      = {1989},
 note      = {Ger. (East) DD 295,939, 10-May-89.},
 annote    = {"The title material comprises use of a metal alloy, or
 intermetallic compd.  in contact with a Li isotope for absorption of H or
its
 isotopes. The combination provides improved efficiency". (Direct quote from
 Chem. Abstr.  116:160965 (1992)).}
}

@misc{P.Gryz1989a,
 author    = {M. Gryzinski},
 title     = {Method of generating soft x-rays by cold nuclear fusion
              in palladium},
 year      = {1989},
 note      = {POL PL 159,831, Nov-89.},
 annote    = {"A method is described for generating soft x-rays for medical
 and diagnostic radiog. The method is based on cold nuclear fusion in a Pd
 electrode (fabricated from a single crystal) in a heavy-water electrolysis
 system. D is introduced during electrolysis perpendicularly to the
 plane-centered Pd crystal side surface. Elec. current is supplied to the
back
 side of the cathode and anode". (Direct quote from Chem. Abstr. 122:172407
 (1995)).}
}

@misc{P.Gryz1989b,
 author    = {M. Gryzinski},
 title     = {Method for carrying out nuclear cold fusion in palladium},
 year      = {1989},
 note      = {POL PL 159,832, Nov-89.},
 annote    = {"Nuclear cold fusion in a Pd electrode using a heavy-water
 electrolysis system can be used as a controlled energy release source. The
Pd
 electrode is neg. polarized and has a single-crystal structure. The plane
 surface of the electrode coincides with the plane-centered crystal lattice
 surface and is positioned in a parallel way to the anode surface.  Elec.
 current is supplied centrally to the back side of both electrodes".  (Direct
 quote from Chem. Abstr. 122:172406 (1995)).}
}
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@misc{P.Hage1990,
 author    = {P.~L. Hagelstein},
 title     = {Fusion apparatus},
 year      = {1990},
 note      = {Int. Pat. Appl. WO 90/13129, 1-Nov-90.},
 annote    = {"Fusion apparatuses for coupling fusible material to a
quantized
 mode in coherent fusion are provided. Method for optimization of reactor
 operation, control of the coherent fusion reaction and extraction of usable
 energy generated are provided". Some of the means of doing this are:
 containing the fusible material (deuterium) in an electrically conductive
 radially symmetric vessel and initiating fusion through coupling to plasmon
 modes or by radially polarizing insulating crystals, or by lining the vessel
 with radially disposed rod-like projections electrically connected in series
 with an oscillator and in series with a computer controlled variable load
for
 extracting the energy; acoustic excitation or excitement by alpha particles
 or cosmic rays. The inventor's theory is given (twice), p.48 shows a letter
 to Florence and Sam and there are 138 claims.}
}

@misc{P.Hage2006a,
 author    = {P.~L. Hagelstein},
 title     = {Direct generation of electrical and electromagnetic energy
              from materials containing deuterium},
 year      = {2006},
 note      = {Application: WO  2006-US20949  20060525.},
 annote    = {A method and app. comprises stimulating a material to cause
 reactions in the material, wherein the material comprises D.  The reactions
 generate vibrational motion of the material.  Coupling the vibrational
motion
 to a transducer generates energy from the vibrational motion of the
material.
 The energy is directed to an elec. device. (Direct quote from Chem. Abstr.
 146:34662)}
}

@misc{P.Hage2006b,
 author    = {P. L. Hagelstein and M. C. H. McKubre and M. D. Trevithick
              and F.~L.~Tanzella and K. Mullican},
 title     = {Methods and apparatus for energy conversion using materials
              comprising molecular deuterium and molecular
              hydrogen-deuterium.},
 year      = {2006},
 note      = {PCT Int. Appl.  (2006), 154 pp.  CODEN: PIXXD2  WO  2006055294
              A2  20060526.},
 annote    = {A method and app. are described which employ processing a host
 material to cause mol. D and/or mol. HD to be present within the host
 material, and processing the host material to cause at least one of He-4 and
 He-3 to be present within the host material.  Stimulating the host material
 generates reactions, and energy is withdrawn from the host material. (Direct
 quote from Chem. Abstr. 144:496901)}
}

@misc{P.Hase1991,
 author    = {M. Hasegawa and N. Hosono},
 title     = {Process for storing hydrogen, and apparatus for cold nuclear
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              fusion and method for generating heat energy, using the
process},
 year      = {1991},
 note      = {Eur. Pat. Appl. EP 414,399, 27-Feb-91.},
 annote    = {"A process for storing H comprises placing a H storing member
in
 a H gas atm. and generating a discharge in the H gas atm., thereby occluding
 the H in the H storing member. An app. for cold fusion by using the above
 process is also claimed". (Quoted from Chem. Abstr. 114:255493 (1991)).}
}

@misc{P.Hash1995,
 author    = {Y. Hashimoto},
 title     = {Method and apparatus for cold nuclear fusion},
 year      = {1995},
 note      = {},
 annote    = {"A mixt. of CH2Cl2 and H2O (and optionally, surfactant) is
heated
 (50-140C) to produce vapor of CH2Cl2 and steam, an electrode which can bring
 about cold fusion is put in a gas chamber which is filled with the CH2Cl2
and
 steam, and cold fusion is promoted. A supercrit. fluid condition is produced
 to induce cold fusion thereby the frequency of cold fusion is increased and
 the reproducibility is increased." (Direct quote from Chem. Abstr. 127:57025
 (1997)).}
}

@misc{P.Hata1995,
 author    = {T. Hatanaka},
 title     = {Method for nuclear fusion, nuclear fusion engine, and a
              mechanical system containing it},
 year      = {1995},
 note      = {Jpn. Kokai Tokkyo Koho JP 08,313,663 May-95.},
 annote    = {"The method comprises the steps of (1) feeding heavy H gas to a
 nuclear fusion chamber contg. an electrode with mirror surface after the
 chamber was evacuated, (2) forming plasma of the heavy H by the discharge of
 the electrode, and (3) compressing the plasma by the mirror surface while
 heating and increasing the d. of the plasma to generate nuclear fusion
 reaction.  The electrode is equipped with a cathode contg. nuclear fusion
 elements which is made of >=1 of H2-absorbing alloy and heavy fermion compd.
 The engine is equipped with (1) an engine housing contg. an operating
chamber
 filled with heavy H gas, (2) a compressor which is connected to the
operating
 chamber, (3) a nuclear fusion means which is connected to the operating
 chamber and the compressor and brings about nuclear fusion of the heavy H by
 the plasma to generate a high-pressure dynamic gas, (4) a turbine to output
 mech. power, and (5) a means for circulating the unreacted heavy H gas to
the
 compressor. The mech. system comprises a machine and the nuclear fusion
 engine. The manufg. and running cost is low, the engine can be operated for
a
 long time, and no environmental pollution is generated" (Direct quote from
 Chem. Abstr.  126:123816 (1997)).}
}

@misc{P.Hayd1990,
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 author    = {A. Hayd and P. Meinke and M. Eckert and K. Koller},
 title     = {Method and apparatus for controlled nuclear fusion},
 year      = {1990},
 note      = {Ger. Offenl. DE 4,032,824, 16-Oct-90.},
 annote    = {"The title method comprises addn. of an unconditioned polymer
 with moderator in a cold nuclear fusion process. The moderator may be a Ni
 salt".  (Direct quote from Chem. Abstr. 117:78500 (1992)).}
}

@misc{P.Here1990,
 author    = {L.~A. Heredy},
 title     = {Electrostatically promoted cold fusion process},
 year      = {1990},
 note      = {PCT Int. Appl. WO 92 08,232, 2-Nov-90.},
 annote    = {"In the title process D gas is introduced and maintained under
 pressure in a reactor contg. a relatively large no. of electrode pairs sepd.
 from each other by thin-walled insulator members, connected to a variable
 high voltage d.c. power source. At least one set of electrode pairs
comprises
 a transition metal, such as Pd, which is capable of forming a deuteride.
 Sufficient voltage is applied to the electrodes to trigger a nuclear fusion
 reaction in the D which is absorbed in the transition metal electrodes and
 excess heat of the reaction is captured by suitable heat exchangers
 operatively assocd. with the reactor. Both sets of the electrodes may
 comprise a transition metal and both are preferably provided in a powder
form
 to increase surface. The polarity of the electrodes is reversed periodically
 to maintain or promote the fusion reaction and the powd.  electrodes are
 agitated from time-to-time to bring fresh transition metal powder in contact
 with the insulator membranes".  (Quoted direct from Chem. Abstr. 117:180353
 (1992)}
}

@misc{P.Hora1990,
 author    = {H. Hora and G.~H. Miley},
 title     = {Verfahren und Anordnung zu Kernverschmelzungsreaktionen
              bei tiefen Temperaturen (Method and apparatus for nuclear
              fusion reactions at low temperatures)},
 year      = {1990},
 note      = {Ger. Offenl. DE 3810806 A1, 11.10.1990},
 annote    = {Professors Hora and Miley (editor of Fusion Technology) write
 that the electrolytic charging of Pd or Ti with deuterium leads to surface
 contamination. This is avoided by charging with deuterium gas under
pressure,
 which is one of their inventions here laid bare. The 9 claims widen this
 concept to include any metallic element in "the eighth group of the periodic
 table" being exposed to H2, D2 or T2 gas, temperature control during such a
 process, absorption of neutrons, alpha or beta emission, the admixture of
 such isotopes as (11)B, (6)Li and (7)Li to the metals, attainment of high
 hydrogen isotope concentration in the metal, the use of electric discharge
 towards this end, the use of high-surface forms of the metals or mixtures
 thereof, control of the metal hydrides' compressibility and finally, the use
 of these processes for initiating an explosive nuclear fission [sic]
 reaction.  Since this is an Offenlegungsschrift and not (yet) a full patent,
 no details are given of how all this is implemented.}
}
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@misc{P.Hora1996,
 author    = {H. Hora},
 title     = {Energy production by nuclear reactions.},
 year      = {1996},
 note      = {Ger. Offen. DE 19641471, 9 Oct 1996.},
 annote    = {"A method of generating nuclear energy comprises concg. high
 levels of H or its isotopes in natural Th, and fission or internal
conversion
 of Th into Pa-233.  The concn. of H isotopes in Th surface can be carried
out
 by contacting the Th with an org. polymer or a metal with high H soly.  such
 as Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Mn, Cr, Ti, Zr, Hf, V, Nb, Ta,
 Lanthanides, as well as actinides.  The reaction can be controlled by
 variation of concn. of H or temp. of Th." (Direct quote from Chem. Abstr.
 128:314196(1998)).}
}

@misc{P.Hoso1990a,
 author    = {N. Hosono},
 title     = {Thermal-energy generators based on cold nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,215,785, 19-Jan-90.},
 annote    = {"A thermal-energy generator based on cold nuclear fusion,
 contains: (1) a container of D gas; (2) a pair of electrodes, at least 1 of
 which is formed of a H-storing metal; (3) a means to apply voltage on the
 electrodes to cause elec. discharge in the presence of D gas between them;
 (4) a thermal conductor to transfer heat generated at the electrodes to a
 coolant; and (5) a converter, to heat, of the kinetic energy of n generated
 by cold nuclear fusion on the H-storing metal". (Direct quote from
 Chem. Abstr. 116:12355 (1992)).}
}

@misc{P.Hoso1990b,
 author    = {N. Hosono},
 title     = {Apparatus for on cold nuclear fusion using solar energy},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,215,786, 19-Jan-90.},
 annote    = {"The app. contains: (1) a solar-energy-based elec. generator;
 (2) a means to generate D by electrolysis of heavy H2O using electricity
from
 the generator; (3) a means to adsorb D using a metal; (4) a means to contain
 D generated by (2); (5) a cold-nuclear-fusion device in (4), which comprises
 a pair of discharge electrodes, at least 1 of which is made of the
 H-adsorbing metal; and (b) [sic] a device to apply voltage to the electrodes
 to cause elec. discharge". (Direct quote from Chem. Abstr. 116:12356
 (1992)).}
}

@misc{P.Hoso1990c,
 author    = {N. Hosono},
 title     = {Cold nuclear fusion and thermal-energy generators},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 04,212,092, 09-Mar-90.},
 annote    = {"Voltage is alternately applied between a pair of discharge
 electrodes, >= 1 of which is made of a H-adsorbing material (e.g. Pd), which
 sandwich a dielec. material and are immersed in heavy H2O, to create elec.
 discharge across the dielec. material. A thermal-energy generator based on
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 the cold nuclear fusion exts. heat produced on the discharge electrode
 through silicone, and converts n kinetic energy into thermal energy by the
 silicone".  (Direct quote from Chem. Abstr. 118:156533 (1993)).}
}

@misc{P.Hots1992,
 author    = {M. Hotsuta},
 title     = {Heat-generating apparatus using Pons-Fleischmann cold nuclear
              fusion effect},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,167,585; 30-Nov-92.},
 annote    = {"The title app. comprises (1) a means to adsorb O with the
 generation of excess heat from the Pons-Fleischmann cold nuclear fusion
 effect by electrolysis of a heavy water-contg. electrolyte in an
electrolytic
 cell contg. an O-adsorbing structure, a Pt or Ni anode, and a H-absorbing
 metal such as a Pd or Ti plate, 1 side of which is a cathode. The D2 which
is
 generated is absorbed by the H-absorbing metal and (2) a means is provided
 for generating excess heat by the Pons-Fleischmann cold nuclear fusion
effect
 by forming a vacuum vessel at another side of the H-absorbing metal plate
and
 colliding accelerated charged particles on the surface of the H-absorbing
 metal to bring about the Pons-Fleischmann cold nuclear fusion effect of the
 D2 in the H-absorbing metal. A large amt. of heat can be obtained stably
with
 good reproducibility, and the wasteful loss of D2 can be prevented". (Direct
 quote from Chem. Abstr. 121:240381 (1994)).}
}

@misc{P.Igar1989,
 author    = {M. Igarashi},
 title     = {Cold nuclear fusion and apparatus},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,280,086, appl. 21-Apr-89.},
 annote    = {"In cold nuclear fusion based on the electrolysis of heavy H2O,
 an ionic conductor placed between anode and cathode contains D+, and the
 cathode is formed of a material (e.g. Li) which can store H. The ionic
 conductor may also contain T+". (Quoted from Chem. Abstr. 115:37282
(1991)).}
}

@misc{P.Igar1993,
 author    = {K. Igarashi and Y. Yamamoto and H. Kajama and M. Mitsuya
              and T. Myake and S. Ogawa and K. Eto and I. Ootake},
 title     = {Cold nuclear fusion},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,249,983, 02-Mar-93.},
 annote    = {"In cold nuclear fusion which uses an electrolytic cell, an ion
 conductor comprising heavy hydrogen ions (D or T ions) between an anode and
a
 cathode facing the anode is described. The cathode can be used to store H
 isotopes.  The isotopic ratio of 7Li in the cathode is >=93\%. Cold nuclear
 fusion can be conducted efficiently in such an arrangement". (Direct quote
 from Chem. Abstr. 122:40940 (1995)).}
}
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@misc{P.Ikeg1990,
 author    = {H. Ikegami},
 title     = {Apparatus and method for utilizing heat generated owing to
              Pons-Fleischmann effect},
 year      = {1990},
 note      = {Eur. Pat. Appl. EP 477,018 20-Sep-90.},
 annote    = {App. and method for efficiently utilizing heat generated owing
 to so-called cold fusion comprises a metal rod, heat pipe, or the like
 directly connected to a cathode in which excess heat is generated owing to
 the Pons-Fleischmann effect, to deprive the cathode of heat. The heat is
used
 to perform elec. or mech. work. Depriving the cathode of heat also
 contributes to maintenance of the performance of the cathode". (Direct quote
 from Chem. Abstr. 117:15849 (1992)).}
}

@misc{P.Ikeg1991,
 author    = {H. Ikegami and K. Mori},
 title     = {Palladium for cold nuclear fusion},
 year      = {1991},
 note      = {Jpn. Kokai Tokkyo Koho JP 04,301,790, 29-Mar-91.},
 annote    = {Pd used as a D absorber in cold nuclear fusion based on, e.g.,
 electrolysis, gas absorption, or elec. discharge, is hardened Pd which is
 cold-worked to decrease cross section by >= 70\%".  (Direct quote from Chem.
 Abstr. 118:243215 (1993)).}
}

@misc{P.Ikeg2001,
 author    = {H. Ikegami},
 title     = {Method and apparatus for nuclear fusion.},
 year      = {2001},
 note      = {Jpn. Kokai Tokkyo Koho  (2001), JP  2001349971 A2  20011221
              Application: JP 2000-2000173524  20000609},
 annote    = {"The title method and app. are  characterized in that the
 nuclear fusion is induced by the localized high d. plasma generated in the
 neighbor of an electrode interface in a melted ionic hydride, such as LiH,
 LiBH4, etc."  (Direect from Chem. Abstr. 136:44447 (2001)).}
}

@misc{P.Ishi1993,
 author    = {R. Ishii},
 title     = {Low-temperature nuclear fusion apparatus},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,337,294, 27-May-93.},
 annote    = {"The app. uses a microwave irradn. of a vessel contg.
 H-absorbing substance of powd. Pd, etc and D2O" (direct quote from
 Chem. Abstr.  122:117207 (1995)).}
}

@misc{P.Ishi1989,
 author    = {A. Ishikawa and M. Katsumi},
 title     = {Power generation by cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 78,691, 23-Aug-89.},
 annote    = {"Thermal energy is generated by implanting D in a substance
 (e.g. Pd) to cause cold nuclear fusion, and the thermal energy is converted
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 into elec.  power by thermoelec. means". (Direct quote from
 Chem. Abstr. 116:47853 (1992)).}
}

@misc{P.Ishi1990a,
 author    = {Y. Ishikawa and H. Ogata and N. Saho and Y. Mihara},
 title     = {Nuclear fusion at room temperature},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,276,990, 13-Nov-90.},
 annote    = {"In the nuclear fusion based on the electrolysis of heavy H2O,
a
 D-absorbing cathode has a porous structure. To increase the absorption rate
of
 O [sic], small amt. of As, CN-, S2- and/or Cl- is added to the heavy H2O".
 (Quoted from Chem. Abstr. 114:255488 (1991)).}
}

@misc{P.Ishi1990b,
 author    = {Y. Ishikawa and H. Ogata and N. Saho and Y. Mihara},
 title     = {Deuterium absorption in nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,276,992, 13-Nov-90.},
 annote    = {"In nuclear fusion, D is absorbed, in vapor phase, by a
 neg.-biased material (e.g. Pd). The material may be a film formed by
 chem.-vapor or sputter deposition in a D atm." (Quoted from Chem. Abstr.
 114:255487 (1991)).}
}

@misc{P.Ish1993,
 author    = {M. Ishizawa and K. Takeno and T. Take and M. Mino
              and T. Koyashiki and T. Masashiro},
 title     = {Cold fusion and apparatus for achieving it},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,265,662, 10-Mar-93.},
 annote    = {The title app. involves the following: (1) laminating a
 thermoelec.  semiconductor layer with low diffusion coeff. of D and a
 D-occluded Pd or Ti plate, (2) applying current from both sides to cool the
 interface, and (3) generating a temp. gradient in the Pd or Ti plate. The
 thermoelec.  semiconductor may contain Fe-Si, B4C, or SiC. The method is
 applied for achieving fusion at <= 1000 C". (Direct quote from Chem. Abstr.
 122:18698 (1995)).}
}

@misc{P.Ito1994,
 author    = {T. Ito and Y. Iwamura and N. Goto},
 title     = {Apparatus for study of nuclear reaction of deuterium within a
              solid material (such as palladium) for elucidating the
              reaction mechanism in cold fusion},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 08,166,477 [96,166,477], Dec-94.},
 annote    = {"The app. is equipped with (1) an electrolysis cell, (2) a
 vacuum vessel and an exhaust system, (3) a means (such as a charged particle
 detector or x-ray detector) in the vacuum vessel for detecting nuclear
 reaction products, and (4) a cathode which partitions the electrolytic cell
 and the vacuum vessel. The spaces between the electrolytic cell, the vacuum
 vessel, and the cathode are airtight and nuclear reaction products are
 detected while the electrolysis is carried out. The mechanism of the nuclear
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 reaction of deuterium within a Pd cathode can be elucidated". (Direct quote
 from Chem.  Abstr. 125:179610 (1996)).}
}

@misc{P.Ito1999,
 author    = {T. Ito and Y. Iwamura and N. Goto},
 title     = {Electrode material for nuclear reactor},
 year      = {1999},
 note      = {Jpn. Kokai Tokkyo Koho JP 11038169 A2 12 Feb 1999 Heisei, 5
pp.},
 annote    = {"The electrode is made of a Ca-contg. hydrogen-absorbing alloy
 substrate.  A CaO-hydrogen absorbing alloy mixed layer of the electrode
 contacts an electrolytic bath.  The hydrogen-absorbing alloys are Pd-based
 alloys.  The generation of x rays and excess heat was obsd. and the reprodn.
 of the nuclear reaction is 100 \%" (Direct quote from Chem. Abstr.
130:188459
 (1999)).}
}

@misc{P.Itsu1992a,
 author    = {M. Itsuhonmatsu and M. Suzuki},
 title     = {Palladium electrodes used for cold nuclear fusion},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,160,559; 20-Nov-92.},
 annote    = {"The greater part of the surface of a Pd electrode is coated
 (by electro- deposition or vapor deposition) with a material (such as >=1 of
 Zn, Cd, Ni, Hg, and their alloys) whose H-generating activity is lower than
 that of Pd.  The D/Pd ratio in the electrode is increased and the heat
 presumably generated from nuclear fusion is increased sharply". (Direct
quote
 from Chem. Abstr.  121:240379 (1994)).}
}

@misc{P.Itsu1992b,
 author    = {M. Itsuhonmatsu and M. Suzuki and T. Sogi},
 title     = {Acceleration of cold nuclear fusion and palladium electrode
              for it},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,180,382; 11-Dec-92.},
 annote    = {"In the acceleration, Pd contg. an alpha-decay-inducing nuclide
 absorbs D.  The radionuclide may be 190Pt or 147Sm. The electrolysis showed
 high efficiency for heat generation". (Direct quote from Chem.  Abstr.
 121:215644 (1994)).}
}

@misc{P.Itsu1993,
 author    = {M. Itsuhonmatsu and M. Suzuki and T. Sogi},
 title     = {Manufacture of palladium deuteride by electrolysis},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,293,985, 07-Apr-93.},
 annote    = {"After D is absorbed in Pd at a temp. >= 10C lower than a
 specified electrolysis temp. the temp. is raised to the specified temp. The
 rate of the rising of the temp. is 10-100C/min. Pd deuteride with a high
D/Pd
 ration can be obtained even at a high temp., so that cold fusion can be
 accelerated and high energy can be obtained" (Direct quote from Chem. Abstr.
 122:40948 (1995)).}
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}

@misc{P.Iwama1989a,
 author    = {S. Iwamatsu},
 title     = {Method of cold fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,297,093, appl. 11-May-89.},
 annote    = {"A cathode consisting of a Pd container or Pd tube contg.
 pressurized D2 is exposed to D+ ions or D plasma atm. or subjected to
 accelerated driving of D.  Thus, an elec. current is applied to a Pt anode
 and a Pd pipe cathode contg.  pressurized D gas, then cold fusion occurs at
a
 high probability at the surface or inside of the Pd pipe cathode. The same
 effect can be achieved by exposing the Pd cathode to D2O or D plasma gas and
 accelerated driving of D ions." (Quoted from Chem. Abstr. 115:37284 (1991))}
}

@misc{P.Iwama1989b,
 author    = {S. Iwamatsu},
 title     = {Nuclear fusion reactor},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,298,891, 15-May-89.},
 annote    = {"A nuclear fusion reactor includes (1) a compartment for
forming
 a plasma from O2O [sic] or D, (2) a compartment for accelerating D ions in
 the plasma, (3) a compartment for projecting this D ion beam toward a metal
 target (e.g.  Pd), and (4) a target support as well as a heat exchanger."
 (Direct quote from Chem. Abstr. 115:80698 (1991))}
}

@misc{P.Iwama1989c,
 author    = {S. Iwamatsu},
 title     = {Cold nuclear fusion based on heavy-water electrolysis},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,304,393, 18-May-89.},
 annote    = {"Cold nuclear fusion is based on the electrolysis of D2O and
 uses cathodes from Ni or a Ni-Pd alloy". (Quoted from Chem. Abstr. 115:59228
 (1991)).}
}

@misc{P.Iwama1989d,
 author    = {S. Iwamatsu},
 title     = {Method of cold fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,306,192, appl. 19-May-89.},
 annote    = {"At least the cathode plate to be immersed in heavy water is of
 Ti material. The electrodes can be an alternative to precious metal
 electrodes.  Thus, a Ti plate, preferably porous Ti cathode and a Ti plate
of
 Pt-plated Ti plate anode are immersed in heavy water, and elec. current is
 applied to the electrodes to cause cold fusion at the cathode. The cathode
 can be a Pd-plated Ti plate". (Quoted from Chem. Abstr. 115:37287 (1991))}
}

@misc{P.Iwama1989e,
 author    = {S. Iwamatsu},
 title     = {Cold nuclear fusion based on heavy-water electrolysis},
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 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,306,193, 19-May-89.},
 annote    = {"In cold nuclear fusion based on D2O electrolysis, a cathode
 bar from a H absorbing metal (and Pd) is used, and a Pt coated Ti anode
plate
 is placed around the cathode bar" (Direct quote from Chem. Abstr. 115:122213
 (1991)).}
}

@misc{P.Iwama1989f,
 author    = {S. Iwamatsu},
 title     = {Cold nuclear fusion based on heavy-water electrolysis},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,307,093, 22-May-89.},
 annote    = {"In cold nuclear fusion, pressured O or its plasma is
introduced
 into a container made of Pt, Ti or a Pd-Ti alloy. Nuclear fusion is caused
on
 the inner wall of the container. Alternatively, the container is filled with
 a powder of Pt, Ti, or the Pd-Ti alloy before the introduction of D or its D
 plasma. Voltage may be applied to the D plasma, forming D ions". (Quoted
from
 Chem. Abstr. 115:59227 (1991)).}
}

@misc{P.Iwama1990a,
 author    = {S. Iwamatsu},
 title     = {Cold nuclear fusion reactors},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,274,487, 24-Mar-90.},
 annote    = {"A cold nuclear fusion reactor contains Pd, Ti, or a H-
adsorbing
 alloy which is covered by a high-strength material such as steel. The fusion
 reactor has improved efficiency". (Direct quote from Chem. Abstr. 116:223521
 (1992)).}
}

@misc{P.Iwama1990b,
 author    = {S. Iwamatsu},
 title     = {Cold nuclear fusion reactors},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,274,488, 24-Mar-90.},
 annote    = {"A cold nuclear fusion reactor consists of a container of D2,
 and an anode and a cathode inserted in the container, and elec. discharge is
 conducted between the electrodes". (Direct quote from Chem. Abstr.
116:223522
 (1992)).}
}

@misc{P.Iwama1990c,
 author    = {S. Iwamatsu},
 year      = {1990},
 title     = {Cold nuclear fusion by ion implantation},
 note      = {Jpn. Kokai Tokkyo Koho JP 04 72,593, 13-Jul-90.},
 annote    = {"The fusion is performed by implanting accelerated D- to
 H-occluding metal or alloy. The fusion may also be performed by implanting
 electron beam to H-occluded or H-occluding metal." (Direct quote from Chem.
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 Abstr.  117:35367 (1992)).}
}

@misc{P.Iwama1990d,
 author    = {S. Iwamatsu},
 title     = {Method of cold fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,311,792, 27-Dec-90.},
 annote    = {D2 gas or plasma state D or ionized D gas is absorbed into a
 H2-absorbing alloy. Pd may be loaded inside and/or on the surface of the
 alloy. The method does not necessarily require electrolysis. Thus, a
 H2-absorbing alloy is exposed to D2 gas to absorb as much as 1000 times the
 vol. of the alloy, to cause cold nuclear fusion The heat evolved by the cold
 fusion can be extd. via heat exchangers". (Quoted from Chem.  Abstr.
 114:255498 (1991)).}
}

@misc{P.Iwamo1990a,
 author    = {E. Iwamoto},
 title     = {Neutron radiographic apparatus based on cold nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,237,397, 14-Feb-90.},
 annote    = {"An n radiog. app., which contains an n source, and a film on
 which n from the source is projected across the sample target, uses a
 cold-nuclear-fusion device as the n source". (Direct quote from Chem.
Abstr.
 116:93662 (1992)).}
}

@misc{P.Iwamo1990b,
 author    = {E. Iwamoto},
 title     = {Radioactivation analyzer using cold-nuclear-fusion apparatus
              as neutron source},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,237,398, 14-Feb-90.},
 annote    = {"A radioactivation analyzer which is equipped with an n source
 and a radiation detector, is characterized in that the n source is a
 cold-nuclear-fusion app.". (Direct quote from Chem. Abstr. 116:93661
 (1992)).}
}

@misc{P.Iwamu1994,
 author    = {Y. Iwamura and N. Goto and T. Ito},
 title     = {In-solid induction of nuclear reaction using hydrogen-storage
              metal (alloy) and apparatus for it},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 08,166,476 [96,166,476], Dec-94.},
 annote    = {"The title method comprises induction of nuclear reaction at
 room temp. by heating a sample obtained by storage of light or heavy H in a
 hydrogen-storing solid, e.g. Pd (alloy) and Ti (alloy), etc., in a vacuum
 container to mobilize the H in solid. The app. for the method is also
 claimed. Trigger of the nuclear fusion can be intentionally given by the
 method". (Direct quote from Chem. Abstr. 125:153144 (1996).}
}

@misc{P.Iwamu1999,
 author    = {Y. Iwamura and T. Ito and N. Goto},
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 title     = {Method for induced nuclear reaction},
 year      = {1999},
 note      = {Jpn. Kokai Tokkyo Koho JP 11231081 A2 27 Aug 1999 Heisei, 4
pp.},
 annote    = {Nuclear reaction is induced by diffusion of heavy H in a
material
 made of Pd (alloys), H-absorbing metals (e.g.Ti), or H-absorbing alloys.
 Pressure of heavy H on 1 side of the material is made high and the other
side
 of the material is vacuumized or controlled to make the heavy H pressure to
 be lower.  Electrolytic nuclear reaction is induced by use of the material
as
 an electrode.  The process is suitable for cold fusion". (Direct quote from
 Chem. Abstr. 131:176016 (1999)).}
}

@misc{P.Iwamu2001,
 author    = {Y. Iwamura and T. Itoh and M. Sakano},
 title     = {Nuclide transmutation device and nuclide transmutation
method.},
 year      = {2001},
 note      = {Eur. Pat. Appl.  (2002), EP  2001-402812  20011030.},
 annote    = {"This small-scale device transmutes long-lived nuclear waste to
 short-lived waste or stable nuclides and transforms abundant elements to
rare
 earth elements.  The device has a body that is plate-shaped and made of Pd
or
 palladium alloy, or another metal that absorbs hydrogen e.g. Ti or a Ti
 alloy.  The material to be transmuted is laminated on one surface of this
 body and at that side there is a high deuterium pressure due to gas pressure
 or electrolysis, while on the other side there is a low deuterium pressure.
 A flow of deuterium is induced in the body and nuclide transmutation is
 carried out by a reaction between the deuterium and the material." (Direct
 quote from Chem. Abstr. 136:347353 (2002)).}
}

@misc{P.John1992,
 author    = {K.~H. Johnson},
 title     = {Enhanced d-d interaction overlap for fusion and
              neutron generation},
 year      = {1992},
 note      = {PCT Int. Appl. WO 94 06,112, 28-Aug-92.},
 annote    = {"A metal deuteride and process for its formation are described,
 in which the deuteride atoms are loaded or stored in Pd to a level which
 induces a Jahn-Teller degeneracy effect, resulting in a symmetry breaking of
 the lattice structure that places selected D atoms in sufficiently close
 approxn. to create usable levels of fusion as an energy and/or neutron
 source. The Pd is placed in an environment in which D atoms are loaded into
 the Pd cell by electrolysis, implantation or diffusion technologies, to a
 loading ratio of 1 or slightly above, at which point a symmetry breakage
 occurs from the degeneracy resulting from the existence of matched electron
 orbital energies in a D-D bonding relationship, in which the orbitals assume
 different energy levels. This shift is coupled to the D nuclei, forcing them
 into closer assocn. as a part of the symmetry breaking effect". (Direct
quote
 from Chem. Abstr. 120:309615 (1994)).}
}
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@misc{P.Jone1989,
 author    = {S.~E. Jones and E.~P. Palmer and J.~B. Czirr and J. Rafelski
              and R. Price},
 title     = {Piezonuclear fusion},
 year      = {1989},
 note      = {PCT Int. Appl. WO 90 13,125, 26. April 1989.},
 annote    = {"Several methods of loading a host material with D and
promoting
 nuclear cold fusion either by elec. current or heating and cooling are
 claimed. The loading methods include electrolysis of D2O, exposure to D,
 thermal cycling of host material under D, catalytic infusion etc". (Quoted
 from Chem. Abstr.  115:17342 (1991)).}
}

@misc{P.Josh1989,
 author    = {A.~V. Joshi},
 title     = {Electrolytic apparatus for dissociation of compounds
              containing hydrogen isotopes},
 year      = {1989},
 note      = {PCT Int. Appl. WO 90 13,127 18-Apr-89.},
 annote    = {"An improved app. is described for high temp. electrolytic
 decompn. of compds. contg. H isotopes, e.g. D. The app. includes a solid
 state electrolyte capable of conducting O, H+, Li or Na ions, an anode
porous
 to O adherent to one surface of the solid state electrolyte, and a
 H-absorbing cathode such as Fe, Ti, Mg, Ni, Pd or their alloy, adherent to
 another surface of the solid state electrolyte. The app. is placed in a H
 isotope medium and 1-2 V of d.c.  passed through the electrodes. Upon
 application of this voltage D2 is absorbed in the cathode. Once the satn. of
 D2 in cathode occurs fusion begins to take place, thus releasing heat
energy.
 A cold fusion process using a molten electrolyte is also claimed". (Direct
 quote from Chem. Abstr. 115:80697 (1991)).}
}

@misc{P.Kale2000a,
 author    = {F.~H.~G.~A. Kaleski},
 title     = {Cold nuclear fusion},
 year      = {2000},
 note      = {Fr. Demande FR 2786020 A1 19 May 2000,64 pp.},
 annote    = {"A cold nuclear fusion device is described comprises a very
high
 energy particle emitter from superposition of the high energy forces [sic]
 and/or elec. current, sum total of which exceeds the speed of light.  The
 emitter emits the particle on a cold fusion cell comprising an electrolysis
 cell bombarded by a wave from a wave emitter and put under a magnetic
 field". (Direct quote from Chem. Abstr. 132:353898 (2000)).}
}

@misc{P.Kale2000b,
 author    = {F. Kaleski},
 title     = {Cold nuclear fusion device.},
 year      = {2000},
 note      = {Fr. Demande (2001),  FR  2809224  A1 20011123.},
 annote    = {The title device comprises a very high energy particle emitter
 formed by superposition of the elec. currents whose sum is greater than the
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 speed of light.  The particle emitter emits the particles on a cold fusion
 cell.  The cell comprises an electrolysis cavity bombarded by the waves
 coming from a wave emitter and subjected to a magnetic field. (Direect quote
 from Chem. Abstr.136:75982 (2002)).}
}

@misc{P.Kann1989,
 author    = {Y. Kanno},
 title     = {Acceleration of cold nuclear fusion by ultrasound},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,281,185, appl. 21-Apr-89.},
 annote    = {"Cold nuclear fusion based on electrolysis of D2O is
accelerated
 by applying ultrasound to D2O" (quoted from Chem. Abstr. 115:37283 (1991)).}
}

@misc{P.Kasa1989a,
 author    = {M. Kasahara and H. Negishi},
 title     = {Power generators based on cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 53,194, 21-Jul-89.},
 annote    = {"A power generator based on cold nuclear fusion utilizes heavy
 H2O, a Pt anode, a Pd cathode, and an elec. power source, is characterized
in
 that the Pd cathode is porous". (Direct quote from Chem. Abstr. 115:192159
 (1991)).}
}

@misc{P.Kasa1989b,
 author    = {M. Kasahara and H. Negishi},
 title     = {Power generators based on cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 53,195, 21-Jul-89.},
 annote    = {"A power generator based on cold nuclear fusion, which utilizes
 heavy H2O, a Pt anode, a Pd cathode, and an elec. power source, is
 characterized in that the Pd cathode is porous, and it is under vibration".
 (Direct quote from Chem. Abstr. 115:192158 (1991)).}
}

@misc{P.Keen2001,
 author    = {F.~W. Keeney and A.~C. Johnson and S.~E. Jones},
 title     = {Cold Nuclear Fusion Under Non-Equilibrium Conditions},
 year      = {2001},
 note      = {Pat. Appl. WO0163979, 2001-08-30},
 annote    = {"A method of producing cold nuclear fusion and a method of
 preparing a fusion-promoting material for producing cold nuclear fusion are
 disclosed. The method of producing fusion includes selecting a
 fusion-promoting material, hydriding the fusion-promoting material with a
 source of isotopic hydrogen, and establishing a non-equilibrium condition in
 the fusion-promoting material. The method of producing fusion may include
 cleaning the fusion-promoting material. The method of producing fusion may
 also include heat-treating the fusion-promoting material. The method of
 preparing a fusion-promoting material for producing fusion includes
selecting
 a fusion-promoting material and hydriding the fusion-promoting material with
 a source of isotopic hydrogen. The method of preparing a fusion-promoting
 material for producing fusion may include cleaning the fusion-promoting
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 material.  The method of preparing a fusion-promoting material for producing
 fusion may also include heat-treating the fusion-promoting material".
Source:
 esp@cenet data base l2}
}

@misc{P.Khud1990,
 author    = {B.~M. Khudenko},
 title     = {Method and apparatus for nuclear fusion},
 year      = {1990},
 note      = {PCT Int. Appl. WO 91 14,267, 13-Mar-90.},
 annote    = {"The present invention relates to a method and app. for cold
 nuclear fusion in which fusionable particles located within an electrolyte
 are accelerated by local electromagnetic fields in a migrational transport
 layer. This migrational transport layer can be induced either by creating a
 cementation system, applying an outside source of current to an electrode
 system, or a combination of both". (Direct quote from Chem. Abstr.
116:115386
 (1992)).}
}

@misc{P.Kirk1992,
 author    = {V.~A. Kirkinsky},
 title     = {Cold-fusion method and apparatus for producing energy,
              tritium, helium, and free neutrons},
 year      = {1992},
 note      = {PCT Int. Appl. WO 94 03,902, 3-Aug-92.},
 annote    = {"A method for producing energy, based on the phenomenon of cold
 nuclear fusion with sorption-desorption of D in metals, is characterized by
 the use, as the metals, of elements or alloys forming 2 cryst.  phases with
 different content of D existing in equil. within a certain temp.  and
 pressure range and mutually isostructural, e.g. Pd, Nb, V, rare earth
 elements, and the intermetallic compds. TiFe and TiCr2. The metal is prepd.
 as powder (with particle size <0.1 mm), thin foil, a film on a substrate, a
 wire, or compact mass with pores and microcracks with the largest possible
 surface. The techniques for prepn. of the metal and for carrying out the
 method are elaborated. Sorption is carried out at a D pressure exceeding
that
 of 3-phase equil. of the isostructural phases with the gas at a given temp.
 which is below the crit. temp., whereas desorption is carried out under
 conditions of 2-phase equil. of the cryst. phase with the gas at a pressure
 which is below the crit. pressure of the equil. of the isostructural phases.
 The cycle is continuously repeated. The method makes it possible to
 accelerate the process of cold nuclear fusion by several orders of
 magnitude".  (Direct quote from Chem. Abstr. 120:309614 (1994)).}
}

@misc{P.Knot2002,
 author    = {D.~J. Knott},
 title     = {Chemically and electrically inducted nuclear cold fusion
              system.},
 year      = {2002},
 note      = {PCT Int. Appl.  (2002), WO  0225669.},
 annote    = {"Generally, cold fusion is viewed as an erroneous concept.
 However, presented cold fusion system is a focused and practical invention
 that recognizes the logic of the complementary unity of the forces of nature
 by applying the opposite attraction in nature.  The nuclear cold fusion
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 system is manufd. within the atm. of a suitably regulated kiln by sepg. at.
 fission from metals and the said manufg. agents by thermal, chem., elec.
and
 atm. attraction.  Using heat, oxygen, electrostatic, charcoal atoms and
 temp. redn. as an activating, sepg., purifying, condensing, congealing and
 hardening medium within the atm. of the kiln.  Continuous recycling of the
 volatile, org., molten and polar-elec. concoction until it has been
 completely vaporised, ionised, purified, congealed and hardened to manuf.
my
 chem. and elec. inducted nuclear cold fusion system."  (Direct quote from
 Chem. Abstr. AN 2002:241121).}
}

@misc{P.Koba1992,
 author    = {S. Kobayashi},
 title     = {Tritium treatment apparatus for a nuclear fusion reactors
[sic]},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 05,232,293, 25-Feb-92.},
 annote    = {"The app. contains a means to accelerate the oxidn. of
 H isotopes, a means to condense and liquefy the regenerate vapor treated by
 the oxidn.- acceleration means, and a means to recover and store the H2O
 produced by the condensation and liquefying means". (Direct quote from
 Chem. Abstr. 120:202690 (1994)).}
}

@misc{P.Kore1996,
 author    = {A. Koreeda},
 title     = {Exhaust device in analytical apparatus for proving cold
fusion},
 year      = {1996},
 note      = {Jpn Kokai Tokkyo Koho JP 09,257,973, 21-Mar-96.},
 annote    = {"The gas formed in an ambient-temp. reactor is fed through a
 connecting tube into a mass anal. tube evacuated by a tube mol. pump and a
 rotary pump connected in series with it, and the change of He gas in the gas
 is detected.  A nonevaporating getter pump is interposed in the connecting
 tube. The nonevaporating getter pump has a heated active adsorption surface
 made of Zr-Al alloy thin film. The change of He gas can be detd. accurately
 when cold fusion is carried out in a reactor". (Direct quote from
 Chem. Abstr.  127:352285 (1997)).}
}

@misc{P.Koya1993,
 author    = {N. Koyama and H. Hirasawa and K. Kunimatsu},
 title     = {Generation of excess heat by ac electrolysis of heavy water},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 07,146,387, 25-Nov-93.},
 annote    = {"In a method using a H isotope-occluding metal as the cathode
 and occluding the D generated from the electrolysis of heavy water at the
 cathode to generate excess heat, a sine-wave a.c. having a fixed amplitude
is
 superimposed on the d.c. applied during electrolysis so that the D occlusion
 ratio (D/Pd) is continuously varied. Excess heat can be generated in a
stable
 manner over a long time" (Direct quote from Chem. Abstr. 123:125393
(1995)).}
}
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@misc{P.Kubo1992,
 author    = {H. Kubota},
 title     = {Room-temperature nuclear fusion materials for fusion reactors},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,138,269; 27-Oct-92.},
 annote    = {"The title material is obtained by coating a compact film (e.g.
 Au) uniformly on the entire surface of a H-absorbing metal (e.g. Pd)
 contg. highly absorbed heavy hydrogen (e.g. D). The reactor conprises a
 heater, the material, and a heating medium in a vessel. Heating efficiency
is
 very high".  (Direct quote from Chem. Abstr. 121: 240378 (1994)).}
}

@misc{P.Kubo1993,
 author    = {H. Kubota},
 title     = {Cold nuclear fusion devices},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 07 84,076, 15-Sep-93.},
 annote    = {"Substances having catalytic action, such as Pt, Ni, Ti, or Pd,
 are used as a cathode and an anode. A D-diffusion layer is installed between
 the 2 electrodes, which are placed in a reactor vessel contg. D gas, and
 elec.  current is passed between the electrodes. Without using an H-
absorbing
 metal and by the synergistic effect of a Pt catalyst and the catalytic
action
 of the elec. current, the nuclear fusion of D is realised". (Direct quote
 from Chem. Abstr. 122:324649 (1995)).}
}

@misc{P.Kuma1989,
 author    = {H. Kumafuji and A. Fukami},
 title     = {Uranium cathode for electrolytic exothermic tritium formation},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,35,192 3-Jul-89.},
 annote    = {"The cathode consists of Pd-coated U used in (3)H-formation by
 electrolyzing an electrolytic soln. contg. D2O and small amt. base with a Pt
 anode and a cathode to produce larger energy than required for the
 electrolysis. The cathode may be built in a porous Al2O3 container instead
of
 Pd-coating. The cathode had high H absorption". (Direct quote from Chem.
 Abstr. 115:80704 (1991))}
}

@misc{P.Kuni1990,
 author    = {K. Kunimatsu},
 title     = {Energy generators based on cold fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 05,302,988, Oct-90.},
 annote    = {"In a cold-fusion-based energy generator, which applies voltage
 between an anode and a cathode from an H-adsorbing [sic] metal (e.g. Pd) or
 its alloy in D2O contg. an electrolyte, a O gas is supplied to the anode to
 cause the reaction D2 --> 2D+ + 2e-. The applied volatage [sic] can be
 substantially low" (direct from Chem. Abstr. 120:282768 (1994)).}
}
@misc{P.Kuni1991,
 author    = {K. Kunimatsu and M. Kawai and H. Fukatsu and S. Takagi},
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 title     = {Pons/Fleischmann cold fusion effect apparatus},
 year      = {1991},
 note      = {Jpn. Kokai Tokkyo Koho JP 06 75,072; 24-Jun-91.},
 annote    = {"The title app. comprises an electrolyte (KCl, LiCl, and LiD
 molten salts) in a pressure container, an anode made from a D2-absorbing
 metal immersed in the molten salt, a cathode made from a porous catalyst
such
 as Pd immersed partly in the molten salt, and a space above the molten salt
 surface.  Compressed D2 gas is fed into the space and contact [sic] part of
 the cathode, and a power source is connected to both electrodes. The
 electrolyte is a molten salt so that it can be operated at high temp., the
 energy efficiency is high, and it is unnecessary to replace the cathode".
 (Direct quote from Chem. Abstr. 121:240370 (1994)).}
}

@misc{P.Kuwa1989,
 author    = {Y. Kuwano and K. Nasako and S. Fujitani and T. Yonezaki
              and A. Furukawa and I. Yonezu and K. Moriwaki and S. Kameoka
              and T. Saito and S. Furukawa},
 title     = {Systems for cold nuclear fusion, heat transport,
              and thermoelectric cells},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,280,088, 20-Apr-89.},
 annote    = {"In a cold-nuclear-fusion-system, in which an anode from an
 O-generating metal (e.g. LaNi5), and a H-absorbing cathode are placed in
 electrolyte-contg.  D2O: (1) the cathode is formed of a H-occluded alloy;
and
 (2) an elec. field is applied between the electrodes. A D-compd. (e.g. D2S)
 may be added to the electrolyte. A heat-transport system uses heat generated
 by the cold-fusion system, and the H gas adsorbed [sic] and released by the
 H-occluded alloy is employed as a heat-transfering [sic] medium. A
 thermoelec.-cell system comprises the cold fusion system and a thermoelec.
 cell". (Quoted from Chem. Abstr. 115:59220 (1991))}
}

@misc{P.Lich1997,
 author    = {A.~N. Lichtchouk and E.~Y. Mourishev},
 title     = {Device to obtain heat energy, working medium and electrodes
              to be used in this device, material for working medium and
              electrodes.},
 year      = {1997},
 note      = {PCT Int. Appl. WO 9904401 97-IB864 14 Jul 1997.},
 annote    = {"The invention relates to the branch of energetic to the
methods
 of obtaining and conversion of heat and other types of energy.  A device to
 obtain heat energy contains a working chamber and at least one electrode
 located in it made bulk and including the elements located with the
 possibility of contact with each other.  According to the invention the
 elements have a shape different from spherical one.  The elements of the
bulk
 electrode can have the shape with the external surface contg. at least one
 plane.  In particular, the elements of the bulk electrode may have the shape
 of a polyhedron or a cone, for example the shape of a prism, or a trigonal,
 tetragonal, ditetragonal, hexagonal, dihexagonal pyramid or dipyramid.  The
 device may contain a medium structuring block connected with a working
 chamber.  The medium structuring blocks contain at least one configurator to
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 provide stable regular resonance structuring of the medium.  The inlet of
the
 working chamber is connected with the outlet of the configurator.  A working
 medium to be used in the device to obtain heat energy contains at least one
 melt base and/or at least one melt salt.  A working medium may contain also
a
 satd. or supersatd. soln. of at least one salt and/or base of a metal of
 subgroups 1a or 2a, or of Al, or of Zn.  A working medium may contain also a
 vapor-gaseous mixt., including H isotopes components.  A material for the
 working medium and electrodes including at least one 1st metal absorbing H
 isotopes and at least one 2nd metal.  The 2nd metal forms a solid soln. with
 at least one 1st metal." (Direct quote from Chem. Abstr. 130:130901
(1999)).}
}

@misc{P.Lich1998a,
 author    = {A.~N. Lichtchouk and E.~Y. Mourishev},
 title     = {Device to obtain heat energy, working medium and electrodes
              to be used in this device, material for working medium and
              electrodes, and method to obtain this material},
 year      = {1998},
 note      = {PCT Int. Appl. WO 9849688},
 annote    = {"The invention relates to a branch of energetics, to the
methods
 of btaining and conversion of heat and other types of energy by way of
 nuclear fusion.  A device to obtain heat energy contains a working chamber ,
 elements to input the working medium , elements to output the fusion
reaction
 products and electrodes.  According to the invention the device has a block
 of medium structuring and contains at least one pair of electrodes thereby
at
 least one electrode of this pair is located in the working chamber.  A
 material for the working medium and electrodes include at least one 1st
metal
 absorbing H isotopes and at least one 2nd metal.  According to the invention
 at least one 2nd metal forms a solid soln. with at least one 1st metal.  The
 1st metal may be, for example, Ti, and the 2nd metal may be the metal
 selected from the group including ferrum, Co, Cr, Ni, Cu, Zr, Ce.  A method
 to obtain the working medium and electrodes includes the deformation of the
 metal alloy.  According to the invention, under the deformation, the
 structuring of the alloy is being carried out, the alloy including at least
 one 1st metal absorbing H isotopes and at least one 2nd metal forming the
 solid soln.  with at least one 1st metal carrying out shearing strain along
 the crystal planes of sliding at the temps. higher than the phase change of
 the alloy in a solid state, but lower than the temp. of a liq. phase
 creation."  (Direct quote from Chem. Abstr. 129:322570 (1998)).}
}

@misc{P.Lich1998b,
 author    = {A.~N. Lichtchouk and E.~Y. Mourishev},
 title     = {Method and device to obtain heat energy},
 year      = {1998},
 note      = {PCT Int. Appl. WO 9849689},
 annote    = {"The invention relates to a field of energetic, to the methods
 and devices for obtaining and conversion of heat and other types of energy.
 This device and method may be effectively used in the autonomic power
devices
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in various ranges of capacities. A method to obtain heat energy includes fusion reaction with preliminary prepn. of the working medium. According to the invention, the prepn. of the working medium is carried out via hydrodynamic macrostructuring; after that, microstructuring of the medium mols. of near and far row is carried out as well as excitation of the electronic levels of the working medium via external effects. Then nuclear fusion is accomplished by the phase conversion in the structured working medium. The hydrodynamic medium macrostructuring may be made by configurators with the corresponding collection of their shape and dimensions. A device to obtain heat energy contains the working chamber , inputting elements for the working medium, outputting elements for fusion reaction products and electrodes. According to the invention, the device has the configurators providing stable regular resonance structuring of the medium. The working chamber is made with an expanding canal. The chamber inlet is connected with the configurator outlet. The device contains at least 3 pairs of electrodes. At least one pair of electrodes is placed in the configurator , at least one pair of electrodes is located at the inlet of the working chamber and at least one pair of electrodes is located in the working chamber. The heat collector may be connected with the outlet of working chamber. The configurators may be made in the shape of a pyramid." (Direct quote from Chem. Abstr. 129:322571 (1998).}
}

@misc{P.Hoep1998,
 author = {R. Hoepfl and H. Harz and F.~P. Boody},
 title = {Plasma-technical layer preparation for nuclear reaction.},
 year = {1998},
 note = {Ger. Offen. DE 19649511 A1 4 Jun 1998, 4 pp.},
 annote = {"A method for nuclear transmutation of long-lived isotopes from radioactive wastes into short-lived or stable isotopes comprises introduction of a high concn. of p, d, t in the waste metal. The metals react with the H isotopes through an exothermic reaction similar to cold fusion and gets transmuted into a short-lived or stable isotopes." (Direct quote from Chem. Abstr. 129:59764 (1998)).}
}

@misc{P.Long1992,
 author = {H. Long},
 title = {High-efficiency reaction vessel for studying the anomalous effect in a metal-deuterium system},
 year = {1992},
 note = {Faming Zhuanli Shenqing Gongkai Shuomingshu CN 1,077,816, 29-Sep-92.},
 annote = {"The title reaction vessel comprises a couple of metal electrodes in a closed container made from insulating material; the metal layer lines the inner wall of the container which is sepd. from the electrodes; and an outlet exiting to air is provided". (Direct quote from Chem. Abstr. 121:20677 (1994)).}
}

@misc{P.Mars1993,
 author = {J. Marshall},
 title = {Glow discharge apparatus and methods providing prerequisites

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              and testing for nuclear reactions},
 year      = {1993},
 note      = {PCT Int. Appl. WO 95 12,883, 01-Nov-93.},
 annote    = {"A method and app. are given for experimenting and testing cold
 fusion or other solid state nuclear reaction processes by means of achieving
 high pressures of solubilized light fusion elements in solid metal lattices
 from the gas phase. The app. uses an anode and cathode positioned in a
 chamber receptive of the fusion element gases to produce controlled
 conditions compatible with postulated cold fusion for lab. and reactor
 purposes. Two electrode embodiments are disclosed for use in a glow
discharge
 mode of operation. The electrodes are thoroughly scrubbed of impurities by
 heating and sputtering prior to experimenting on cold fusion processes. The
 results of cold fusion experimentation are then monitored and controlled".
 (Direct quote from Chem. Abstr. 123:154810 (1995)).}
}

@misc{P.Mart1990,
 author    = {J. Martin},
 title     = {Process and apparatus for the uptake of hydrogen in a solid},
 year      = {1990},
 note      = {Ger. Offenl. DE 3915153 A1, 15.11.1990},
 annote    = {Expressed very generally, this invention is about the uptake
 of hydrogen isotopes in a solid that is capable of taking it up. This could
 be, for example, a palladium cathode in a cold fusion arrangement, or a
 hydrogen storage material in a vehicle. The essence of the invention is to
 solve the problem of an active layer, that enables hydrogen uptake; such a
 layer is here generated continuously by means of, e.g., a dilute palladium
 salt in the electrolyte (causing Pd deposition in a spongy, active form), or
 by means of surface radiation treatment of the material. Various other means
 are covered.}
}

@misc{P.Mast1995,
 author    = {U. Mastromatteo},
 title     = {Solid fuel for cold nuclear fusion reactors},
 year      = {1995},
 note      = {PCT Int. Appl. WO 97 20,319, 30-Nov-95.},
 annote    = {"This invention relates to a solid fuel for cold nuclear fusion
 reactors. A reactor suitable for such fuel comprises a quantity (MA) of an
 absorbing material capable of absorbing H, and of generating in consequence
 thermal energy, has the form of a cyclindrical container and comprises a
 quantity (CO) of a fuel capable of releasing H put in touch with the inner
 walls of container (MA), and comprises a thermal element (ET) located in the
 inside and in touch with fuel (CO) to heat it. The fuel according to this
 invention is constituted by a solid compn. including at least 1 of the
 chem. elements belonging to the groups III, IV, V or [sic] the periodic
 system, or at least a compd. obtained by combining to 1 another at least 2
of
 such elements, and including an effective quantity of H". (Direct quote from
 Chem. Abstr.  127:100892 (1997)).}
}

@misc{P.Mats1991a,
 author    = {T. Matsumoto and H. Harada},
 title     = {Energy generation by cold nuclear fusion},
 year      = {1991},
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 note      = {Jpn. Kokai Tokkyo Koho JP 05,107,376, 14-Oct-91.},
 annote    = {"In the process, H2O contg. an electrolyte decompd. through
 electrolysis using Pd (or its alloy) heated at >= 800C in vacuum as a
cathode
 and Pd as an anode to cover the surface of the cathode material with H atoms
 so that nuclear fusion, with the H atoms as a catalyst, is caused on the
 surface of and/or inside the cathode" (direct quote from Chem.  Abstr.
 120:176068 (1994)).}
}

@misc{P.Mats1991b,
 author    = {T. Matsumoto and H. Harada},
 title     = {Creation of elements from water by nuclear fusion},
 year      = {1991},
 note      = {Jpn. Kokai Tokkyo Koho JP 05,134,098 15-Nov-91.},
 annote    = {"In the process, D2O electrolytically dissolved using a Pd (or
 its alloy) cathode heated >= 80 degC vacuum, and a Pt anode, the cathode is
 surrounded by atoms to induce cold nuclear fusion on and/or inside the
 cathode with the D atoms as a catalyst, and the nuclear fusion creates
 various useful elements".  (Direct quote from Chem. Abstr. 119:258256
 (1993)).}
}

@misc{P.Maye1990,
 author    = {F.~J. Mayer},
 title     = {Resonant direct nuclear reactions for energy and tritium
              production},
 year      = {1990},
 note      = {PCT Int. Appl. WO 91 17,546,  09-May-90.},
 annote    = {"An app. is described comprising: means for energizing a 1st
 nucleus to an energy of <= 3 keV; means for contg. a 2nd nucleus therein;
 means for contacting the energized nucleus with the 2nd nucleus, whereby an
n
 transfer reaction occurs between the nuclei under conditions wherein the
 energy of the energized nucleus is substantially below the Coulomb barrier
 energy for the reaction and the reaction generates products having a kinetic
 energy substantially in excess of the energy of the energized nucleus, which
 is dissipated to the reactor as thermal energy; and means for withdrawing
 thermal energy from the reactor". (Direct quote from Chem. Abstr. 116:115385
 (1992)).}
}

@misc{P.McKu1991a,
 author    = {M.~C.~H. McKubre and R.~C. Rocha-Filho and S.~I. Smedley
              and F.~L. Tanzella and S. Crouch-Baker and T.~O. Passell
              and J. Santucci},
 title     = {Method for producing heat from deuterated palladium},
 year      = {1991},
 note      = {PCT Int. Appl. WO 92 22,905, 11-Jun-91.},
 annote    = {"Methods are described for producing heat from the interaction
 of D in a metal (e.g. Pd) having a crystal lattice with roughly polyhedral
 spaces.  Deuterium is loaded into the metal and an elec. current is provided
 in the metal to supply energy to the loaded D and allowed the interaction to
 occur.  The at. ratio of D to metal should be >= 0.8". (Direct quote from
 Chem. Abstr.  118:156537 (1993)).}
}
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@misc{P.McKu1991b,
 author    = {M.~C.~H. McKubre and S.~I. Smedley and F.~L. Tanzella},
 title     = {Methods for cleaning cathodes},
 year      = {1991},
 note      = {PCT Int. Appl. WO 92 22,906, 11-Jun-91.},
 annote    = {"Methods for cleaning cathodes immersed in electrolytes, esp.
 electrolytes contg. ambient D from D2O. The cathode is 1st driven with a
 pos. voltage and current is drawn until O evolution begins to dominate D
 oxidation. Then, a neg. voltage is impressed on the cathode and several
 mA/cm$^2$ c.d. are drawn for at least a day to reform the surface of the
 cathode. For Pd cathodes, the purity of the surface is further improved by
 heating it in a vacuum furnace, cooling it in a D atm., etching the cooled
 surface in aqua regia, and rinsing with D2O". (Direct quote from Chem.
 Abstr. 118:156538 (1993)).}
}

@misc{P.McKu1991c,
 author    = {M.~C.~H. McKubre and R.~C. Rocha-Filho and S.~I. Smedley
              and F.~L. Tanzella and S. Crouch-Baker and J. Santucci},
 title     = {Methods for forming films on cathodes},
 year      = {1991},
 note      = {PCT Int. Appl. WO 92 22,907, 11-Jun-91.},
 annote    = {"A method is described for forming a film on the surface of a
 cathode to facilitate the loading of D into the cathode. The cathode and an
 anode are immersed in an electrolyte contg. D and conducting ions, and the
 electrodes are connected to a current source. The conducting ions may be
 formed by inclusion of LiOD in the electrolyte. The addn. of other elemental
 species or compds. to the electrolyte further promotes the film formation
and
 enhances the loading of D into the cathode". (Direct quote from
 Chem. Abstr. 118:156539 (1993)).}
}

@misc{P.McKu1991d,
 author    = {M.~C.~H. McKubre and S.~I. Smedley and F.~L. Tanzella
              and R.~C. Rocha-Filho},
 title     = {Apparatus for producing heat from deuterated palladium},
 year      = {1991},
 note      = {PCT Int. Appl. WO 92 22,908, 11-Jun-91.},
 annote    = {"App. is described for producing heat from the interaction of
 D in a metal (e.g. Pd) having a crystal lattice with roughly polyhedral
 interior spaces.  Deuterium is loaded into the metal and an elec. current is
 passed through the metal to stimulate the heat-producing interaction. The
 loading of D can be enhanced by increasing the concn. of D at the metal
 surface through the use of a metal container for holding electrolyte in the
 presence of pressurized D gas, or through use of a thin film cathode
 sandwiched between 2 gas permeable membrane anodes. Loading can also be
 facilitated by the formation of a film on the surface of a metal through the
 use of additive species in the electrolyte such as Al, Si, and B". (Direct
 quote from Chem. Abstr. 118:156540 (1993)).}
}

@misc{P.McKu1991e,
 author    = {M.~C.~H. McKubre and S. Crouch-Baker and F.~L. Tanzella
              and S.~I. Smedley and J. Santucci and R.~C. Rocha-Filho},
 title     = {Apparatus for producing heat from deuterated
              film-coated palladium},
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 year      = {1991},
 note      = {PCT Int. Appl. WO 93 00,683, 27-Jun-91.},
 annote    = {"An electrolysis system for generating excess heat has a d.c.
 source coupled between an anode and a cathode. The electrolyte is typically
a
 soln.  of LiOD in heavy water. The cathode has a surface layer that is
 comprised primarily of Pd. The current flow through the cell causes the Pd
to
 become loaded with D. The surface layer is at least partially coated with a
 film that enhances the loading of D into the layer. The film is comprised of
 hydrated metal oxide-based cmpds., where the metal may be Al, Si, B, Ba, Ca,
 Cu, Fe, Li, Mg, Ni, Sc, Ti, V, Y, or Zr. The film is formed from material in
 the electrolyte by the current flow. In an alternative embodiment of the
 invention, the film is preformed on the surface of the cathode before
 immersion into the electrolyte". (Direct quote from Chem. Abstr. 118:178705
 (1993), but correcting "ba" to "Ba").}
}

@misc{P.McKu1992,
 author    = {M.~C.~H. McKubre and R.~C. Rocha-Filho and S.~I. Smedley
              and F.~L. Tanzella and S. Crouch-Baker and J. Santucci},
 title     = {Methods for forming films on cathodes},
 year      = {1992},
 note      = {PCT Int. Appl. WO 94 14,163, 10-Dec-92.},
 annote    = {"A method is described for forming a film on the surface of a
 cathode to facilitate the loading of a H isotope into the cathode. The
 cathode and an anode are immersed in an electrolyte contg. a H isotope and
 conducting ions, and the electrodes are connected to a current source. The
 conducting ions may be formed by inclusion of LiOH, LiOD or LiOT in the
 electrolyte. The addn. of other elemental species or compds. to the
 electrolyte further promotes the film formation and enhances the loading of
 the H isotope into the cathode".  (Direct quote from Chem. Abstr. 121:120002
 (1994)).}
}

@misc{P.Mend2000,
 author    = {J. {Mendez-Vigo Barazona}},
 title     = {Process and apparatus for cold fusion using electric treatment
              of palladium electrode and/or titanium with gold electrode},
 year      = {2000},
 note      = {Pat. Application: ES  97-9700596 (2000).},
 annote    = {"Process and app. for cold fusion using elec. treatment of
 palladium electrode and/or titanium with gold electrode during water
 electrolysis is described" (Direct quote from Chem. Abstr. 135:113334
 (2001)).}
}

@misc{P.Mika1989,
 author    = {A. Mikami and K. Kuroki and S. Furukawa and K. Nasako
              and I. Yonezu and K. Moriwaki},
 title     = {Apparatus for cold nuclear fusion and heat-transport system},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,306,194, 19-May-89.},
 annote    = {"The app. consists of a cathode-comprising tank from a
 H-absorbing metal, D2O contg. an electrolyte, and a cathode immersed in the
 D2O, while elec.  insulated from the tank. Nuclear fusion of D is conducted
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 in the cathode with the application of an elec. field between the
electrodes.
 A heat-transport system is based on the absorption and releasing of H
 (heat-transfering medium) by the H-absorbing metal". (Quoted from
 Chem. Abstr. 115:59223 (1991)).}
}

@misc{P.Mill1989,
 author    = {R.~L. Mills},
 title     = {Energy/matter conversion methods and structures},
 year      = {1989},
 note      = {PCT Int. Appl. WO 90 13,126 Nov. 1990;
              US Appl. 341,733, 21-Apr-89.},
 annote    = {"A method and app. for releasing energy comprise: selecting a
 1st and a 2nd atom; detg. the resonance orbital shrinkage nergy levels of
the
 e orbitals of the 2 atoms; providing 2 energy holes substantially equal to
 each of the shrinkage energy levels of the atoms; and juxtaposing the atoms
 and energy holes to produce nuclear fusion of the atoms. The cold fusion
 takes place when the energy is removed from the electron orbitals of atoms
by
 the energy holes permitting redn. of the at. orbitals and attractive nuclear
 forces to act. The energy holes can be provided by using a catalytic
 ion-pair, each ion having ionization energy close to the resonance orbital
 shrinkage energy of one of the ions. A table of numerous such ion-pairs is
 also presented." (Direct quote from Chem. Abstr. 114:173685 (1991)}
}

@misc{P.Mino1993,
 author    = {M. Mino and T. Koyashiki and M. Ishizawa and K. Takeno
              and T. Take and T. Masashiro},
 title     = {Manufacture of hydrogen-storing materials},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo JP 06,256,986, 08-Mar-93.},
 annote    = {"When hydrogen-generating voltage is applied to an anode and
 a cathode in a soln. contg. Pd ions, H ions or D ions, or both H and D ions,
 Pd in which H2 or D2 or both H2 and D2 are absorbed is deposited on the
 cathode. Pd absorbed with H2 and/or D2 can be prepd. efficiently and when
 such a Pd is used for cold nuclear fusion the amt. of heat generated is
 higher than when conventional samples are used". (Direct quote from
 Chem. Abstr. 121:310417 (1994)).}
}

@misc{P.Miya1990a,
 author    = {S. Miyanaga},
 title     = {Cold nuclear fusion based on electrochemistry in
              ultrasound field},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,226,694, 01-Feb-90.},
 annote    = {"In cold nuclear fusion, in which elec. energy is applied
 between a pair of electrodes immersed in a heavy-H2O-filled tank, to cause
 reaction between the electrode surface and D, the whole reaction system is
 placed in an ultrasound field. The method can improve the efficiency of cold
 nuclear fusion". (Direct quote from Chem. Abstr. 116:70226 (1991)).}
}

@misc{P.Miya1990b,
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 author    = {S. Miyanaga and S. Yamazaki},
 title     = {Nuclear fusion using atmospheric pressure glow discharge},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,276,095, 27-Mar-90.},
 annote    = {"In a gas-phase plasma reaction using an electrode coated with
 a material for nuclear fusion in a reactor, nuclear fusion is done by
 discharging in a He-D mixt. using a pair of D-adsorbing metal electrodes to
 generate overvoltage at the electrode surface, and supplying D to the
 electrode or its vicinity". (Direct quote from Chem. Abstr. 116:160967
 (1992)).}
}

@misc{P.Mizu1990,
 author    = {T. Mizugai},
 title     = {Nuclear fusion employing heavy fermion effect within a
              solid material},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,271,288, 6-Nov-90.},
 annote    = {"Deuterium ((2)D, or (2)D and (3)T) is made to be absorbed by a
 heavy fermion compd. or a composite of the heavy fermion compd. and a
 H-storing material, to cause nuclear fusion. The method uses electrons with
 extraordinary heavy mass due to the heavy fermion effect in solid state to
 shield elec. charge of the deuteron to cause nuclear fusion with a small
 unit". (Direct quote from Chem. Abstr. 114:216547 (1991).}
}

@misc{P.Mizu1991,
 author    = {T. Mizuno and H. Ikegami},
 title     = {Continuous generation of extraordinary heat by
              cold nuclear fusion},
 year      = {1991},
 note      = {Jpn. Kokai Tokkyo Koho JP 05 27,062, 23-Jul-91.},
 annote    = {"In continuous generation of extraordinary heat by cold nuclear
 fusion, a Pd electrode used for P2O [sic] electrolysis is pretreated to have
 a D-absorption-release cycle" (Direct quote from Chem. Abstr. 118:262644
 (1993)).}
}

@misc{P.Mizu1993a,
 author    = {T. Mizuno},
 title     = {Cold fusion and metal material for fusion},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,265,663, 15-Mar-93.},
 annote    = {"Pd with a Li-alloyed surface for electrolysis of Li-contg.
 electrolyte is claimed for the material. The method is characterized by (1)
 using the metal material as a cathode, (2) electrolyzing Li-contg. D2O
 soln. in a catalyst-equipped sealed cell, and (3) recombining generated D2
 and O for reclamation of formed D2O. H isotope-induced embrittlement of the
 Pd cathode is prevented". (Direct quote from Chem. Abstr. 122:18699
(1995)).}
}

@misc{P.Mizu1993b,
 author    = {T. Mizuno},
 title     = {Reaction apparatus for generating cold fusion by using heavy
              hydrogen-containing gas},
 year      = {1993},
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 note      = {Jpn. Kokai Tokkyo JP 07,104,080, 5-Oct-93.},
 annote    = {"The reaction app. contains a proton conductor. The reaction
 app. is manufd. by sintering a mixt. of powd. metal oxides to form a proton
 conductor, and an electrode layer is formed on it. An a.c. is applied to the
 reaction body in a heavy hydrogen-cntg. atm. to bring about cold fusion.
Cold
 fusion can be initiated and run continuously with high efficiency and good
 controllability" (Direct quote from Chem. Abstr. 123:42842 (1995)).}
}

@misc{P.Mizu1994,
 author    = {T. Mizuno},
 title     = {Manufacture of metal electrodes for nuclear cold fusion
              from electrolysis of light or heavy water},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,299,206, 14-Apr-94.},
 annote    = {"The manuf. involves the following steps: (1) shaping a metal
 powder not forming hydrides, (2) sintering the compact in a vacuum, and (3)
 anodically dissolving the compact in an acid or alkali soln. to remove the
 inactive surface film. Alternately, an alloy or a metal forming hydrides is
 hydrided, pulverized, and compacted in the above method. Thus, manufd. metal
 is useful for an electrode in cold fusion from water". (Direct quote from
 Chem. Abstr.  122:66670 (1995)).}
}

@misc{P.Mizu1999,
 author    = {T. Mizuno},
 title     = {Reactor for producing energy and neutrons by electrolytic
              reaction in light- or heavy-water solution.},
 year      = {1999},
 note      = {PCT Int. Appl. WO 9949471 A1 30 Sep 1999},
 annote    = {"A reactor for producing energy and neutrons by electrolytic
 reaction in a light- or heavy-water soln. comprises a base made of a
 refractory metal and a metal layer formed on the base and active against
 hydrogen.  The reactor to serve as a cathode is immersed in an electrolyte
 together with an anode.  Current is made to flow between the cathode and
 anode to cause an electrolytic reaction.  Thus, thermal energy and neutrons
 are produced." (direct quote from Chem. Abstr. 131:234699 (1999)).}
}
@misc{P.Mome1990,
 author    = {A.~M. Momenthy},
 title     = {Cold nuclear fusion thermal generator},
 year      = {1990},
 note      = {Eur. Pat. Appl. EP 461,690, 13-Jun-90.},
 annote    = {"An app. for conducting cold fusion comprises an elec.
 conductive anode; an elec. conducting cathode comprised of a constituent for
 selectively adsorbing H and releasing larger nuclei, and B or Li; a vessel
 for contg. the electrodes; an electrolyte; means to vent gaseous reaction
 products; and means to carry away the heat generated by the fusion. A method
 of producing heat energy comprises the steps of immersing an anode and a
 cathode in an ionic aq.  soln. in an electrolytic cell; applying an
 elec. current across the electrodes such that H+ ions are produced and H
 nuclei are adsorbed by the cathode; fusing the adsorbed H with B in the
 cathode; and withdrawing heat from the cell". (Direct quote from
 Chem. Abstr. 116:160961 (1992)).}
}
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@misc{P.Moto1990,
 author    = {T. Motomiya},
 title     = {Cold nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,293,692, 04-Dec-90.},
 annote    = {"Cold nuclear fusion includes: (a) introducing a D gas
 (ca. 1E-03 Torr) into a vacuum chamber contg. a planar or curved cathode
 plate from an elec.  conductor (e.g., P2) which is likely to form a hydride,
 and a needlelike anode from a refractory elec. conductor; (b) applying
 d.c. to form an elec. field of ca. 30 V/Angstrom between the electrode tips
 for the ionisation of D; and (c) accelerating D ions toward the cathode
 plate; so that the plate absorbs and enriches D ions". (Quoted from
 Chem. Abstr. 114:255491 (1991))}
}

@misc{P.Mura1994,
 author    = {N. Murakami and M. Nagai and H. Tajima and T. Setoguchi},
 title     = {Method of heat generation},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 07253488, Oct-94.},
 annote    = {"In an electrolytic cell using heavy hydrogen as a reactant
 and a proton-conductive ceramic as an electrolyte, elec. potential is
applied
 to conduct electrolysis, thereby effective heat is generated.  Effective
heat
 can be generated from D, no CO2 is generated, more heat than fossil fuel can
 be generate, heat as high as >= 300 C can be recovered, thus hot water for
 heating a house and power generation can be obtained". (Direct quote from
 Chem. Abstr. 124:69822 (1996)).}
}

@misc{P.Mura1993,
 author    = {Y. Muraoka},
 title     = {Apparatus and method for cold nuclear fusion},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,265,664, 11-Mar-93.},
 annote    = {"The app. comprises (1) a casing of any shape made of
 nonelec.conductive material, (2) 2 water-permeating plates to divide the
 inside of the casing into 3 parts, (3) an electrolyte soln. (such as D2O
 contg. LiOH) in the space between the 2 water-permeating plates (i.e. center
 space), (4) anode particles (such as Pt) filled in 1 of the side spaces
 formed by the water-permeating plates, (5) D2-absorbing cathode particles
 (such as Pd) filled in another side space, (6) electrode plates (such as
 Cu-Zr alloy), and (7) an app. for supplying elec. current to the electrode
 plates. An app. for producing a magnetic field can be installed between the
 inner and the outer walls of the casing for promoting the cold nuclear
 fusion. The electrode particles have a large surface area so that cold
 nuclear fusion can be carried out rapidly".  (Direct quote from
 Chem. Abstr. 122:40941 (1995)).}
}

@misc{P.Myak1994,
 author    = {M. Myake},
 title     = {Cold nuclear fusion apparatus},
 year      = {1994},
 note      = {Jpn. Kokai Tokkyo Koho JP 07,244,176, 04-Mar-94},
 annote    = {"The app. is composed of putting D-absorbing Pd in a D bath
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 and highly heat conductive Cu is connected to it" (Direct quote from
 Chem. Abstr.  123:352883 (1995)).}
}

@misc{P.Naka2002,
 author    = {T. Nakamura},
 title     = {Lithium deuteride electrolysis apparatus for nuclear
reaction.},
 year      = {2002},
 note      = {Jpn. Kokai Tokkyo Koho  (2002), JP  2002062389},
 annote    = {"The invention relates to an electrolysis app. for LiD soln.
 to produce thermal energy due to cold fusion, comprising a Pd cathode and a
 Pt anode, wherein the porous C/Pt catalyst is placed on one side of the Pd
 cathode and the heated H2 gas is contacted to the Pd cathode through the
 catalyst for insuring the heat generation." (Direct quote from
 Chem. Abstr. 136:223135).}
}

@misc{P.Naka1990,
 author    = {F. Nakanishi and M. Tatsumi and K. Tada},
 title     = {Power generator based on cold nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,287,289, 27-Nov-90.},
 annote    = {"A power generator based on cold nuclear fusion which involves
 electrolysis of D2O is characterized in that D and O generated by the
 electrolysis are burned back to D2O, which is returned to the electrolysis
 tank".  (Quoted from Chem. Abstr. 114:255490 (1991))}
}

@misc{P.Naka1989,
 author    = {H. Nakano},
 title     = {Deuterium-absorbing materials in cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 02,690, 31-May-89.},
 annote    = {"A D-absorbing material (e.g. Pd) used in cold nuclear fusion
 has an amorphous structure. Nuclear fusion of D atoms has increased
 efficiency".  (Quoted from Chem. Abstr. 115:59224 (1991)).}
}

@misc{P.Nara2006,
 author    = {B. Naranjo and J. Ginzewski and S. Putterman},
 title     = {Method and apparatus for generating nuclear fusion using
              crystalline materials},
 year      = {2006},
 note      = {Application: WO 2006-US113  20060103.},
 annote    = {"Gently heating a pyroelec. crystal in a deuterated atm. can
 generate fusion under desktop conditions.  The electrostatic field of the
 crystal is used to generate and accelerate a d beam (>100 keV and >4 nA),
 which, upon striking a deuterated target, produces a n flux over 400 times
 the background level.  The presence of neutrons within the target is
 confirmed by pulse shape anal. and p recoil spectroscopy.  Several elements
 of the system may be modified, including the configuration of the crystal or
 crystals, the compn. of the surrounding environment and the target, the use
 of multiple probe tips, and the compn. of the probe tip". (Direct quote from
 Chem. Abstr. 145:237080)}
}
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@misc{P.Neeb1991,
 author    = {K.~H. Neeb and R. Hoffmann and J. Martin},
 title     = {Method and apparatus for fusion of light particles in solid
              getter},
 year      = {1991},
 note      = {Ger. Offen. DE 3,920,312, 3-Jan-91.},
 annote    = {"The title method of fusion of H and/or its isotopes in a solid
 getter comprises an electrode, e.g. Pd, a center electrode, and an
 electrolyte where the getter and the light particles are irradiated and/or
 bombarded with radiation and/or particles, e.g., n, alpha-particles, or
(3)He
 ions. One of the ways to implement the above process is incorporating an
 alpha-emitting nuclei [sic] in the cathode material. The above process
 increases cold fusion probability". (Direct quote from Chem. Abstr.
 114:216543 (1991).}
}

@misc{P.Nish1990,
 author    = {T. Nishioka and E. Yamaguchi},
 title     = {Cold nuclear fusion and apparatus},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 04 24,595 21-May-90.},
 annote    = {"An app. consists of alternately laminated 1st layers from Pd
 or Ti, and 2nd layers from a material (e.g. Si) which reacts with the
 1st-layer material and forms an eutectic. Cold nuclear fusion is achieved by
 allowing the 1st-layer material to adsorb D or T, and by heating the laminar
 app. to form an eutectic of the 1st- and 2nd-layer materials". (Direct quote
 from Chem. Abstr.  117:15848 (1992)).}
}

@misc{P.Nish1993,
 author    = {T. Nishioka and E. Yamaguchi},
 title     = {Method and apparatus for generating heat by electrolysis},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,221,689, 21-Jan-93.},
 annote    = {"When an electrochem. is formed or after its formation, by
 making contact of a 1st material comprising Pd or Ti with a 2nd material
 comprising an alloy contg. >=50\% of Y, Fe, or Ni, a gas comprising H, D, or
 T or their combination is absorbed by the cell components. The 1st material
 is used as an anode and the 2nd material is used as a cathode. An
 elec. current is passed through the cell, and a temp. gradient is produced
in
 such a way that the temp. at the 1st material is higher than the temp. at
the
 2nd material side. An effective heat source can be thus provided" (Direct
 quote from Chem. Abstr. 122:18692 (1995)).}
}

@misc{P.Nish1989,
 author    = {I. Nishiyama and Y. Nanbu},
 title     = {Cold nuclear fusion apparatus},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 51,794, 19-Jul-89.},
 annote    = {"The app., equipped with a device for heavy-H2O electrolysis,
 is characterized in that the cathode of the device is formed at a
 graphite-alkali-metal interlayer compd. (e.g. C8K)" (Direct quote from
 Chem. Abstr. 115:217010 (1991)).}
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}

@misc{P.Nobu1989a,
 author    = {H. Nobunaga},
 title     = {Method for hydrogen nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,297,094, appl. 11-May-89.},
 annote    = {"In cold fusion by applying elec. voltage between a pair of
 electrodes immersed in heavy water, an elemental metal selected from alkali
 metal, alk.  earth metal, rare earth elements, Sc, V, Cr, Ni, Cu, Zn, Nb, Hf
 and Ta is used as the cathode material. Thus, a Au anode and a La cathode
are
 set in a container holding heavy water contg. a metal salt. When 20 V
 const. potential was applied between the electrodes, H2 (sic) bubble
appeared
 on the cathode surface in several minits [sic] suggesting initial sorption
of
 D+ ions within the cathode, and emission was obsd. of n, gamma-rays and
 heat. When Mn was used as the cathode, bubbles appeared immediately, but no
n
 and gamma-emission were obsd. Metals capable of forming hydrides seemed to
be
 able to cause cold fusion". (Quoted from Chem. Abstr. 115:37285 (1991),
 including '(sic)' but not '[sic]').}
}

@misc{P.Nobu1989b,
 author    = {H. Nobunaga},
 title     = {Method for hydrogen nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,297,095, appl. 11-May-89.},
 annote    = {"In nuclear fusion by applying elec. voltage between a pair of
 electrodes immersed in heavy water to cause cold fusion at the cathode, an
 alloy contg.  >=1 of rare earth elements, Mg, Ni, Co, Fe and Ti is used as
 the cathode material. Thus, a Au anode and a LaNi5 cathode are set in a
 container holding heavy water contg. a metal salt. When 20 V const.
potential
 was applied, H bubbles appeared on the LaNi5 cathode surface suggesting
 initial sorption of D+ ions in the cathode, and emission was obsd. of n,
 gamma-rays and heat. No n and gamma-rays were obsd. with a stainless steel
 (SUS 304) cathode. Metal capable of forming hydrides seemed to be able to
 cause cold fusion". (Quoted from Chem. Abstr. 115:37286 (1991).}
}

@misc{P.Noni1989,
 author    = {V. Noninski and Kh. Noninski},
 title     = {Method and device for the determination of the obtained
              energy during electrolytic processes},
 year      = {1989},
 note      = {PCT Int. Appl. WO 91 01,493, 20-Jul-89.},
 annote    = {"A method and app. for use in detg. the quantity of energy
 obtained during electrolytic processes is disclosed. The app. includes a
 Dewar vessel contg.  a measured quantity of H2O. An electrolyte cell is
 hermetically sealed in the vessel. A plurality of thermocouples is
positioned
 within the vessel for purposes of measuring temps. within the vessel. A
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 magnetic stirrer is mounted in the bottom of the vessel. The app. can be
used
 in cold fusion exts.".  (Quoted from Chem. Abstr. 114:2554496 (1991)).}
}

@misc{P.Noto1992,
 author    = {R. Notoya},
 title     = {Cold fusion from light water by electrolysis},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,317,686, 13-Oct-92.},
 annote    = {"The method involves electrolyzing an aq. electrolyte soln.
 (H2O) with a porous anode (porosity 0.3-35 vol\%) of a transition metal, Al,
 Sn, or a stainless steel". (Direct quote from Chem. Abstr. 122:117483
 (1995)).}
}

@misc{P.Noto1993,
 author    = {R. Notoya},
 title     = {Porous metal cathode for cold fusion chain reaction,
              its manufacture, and electrolyte for reaction},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 07,174,878, Oct-93.},
 annote    = {"The cathode consists of a porous metal (voids 0.5-80 vol.\%)
 selected from a transition metal, Al, Sn, and stainless steel. The cathode
is
 manufd. by shaping a metal powder with grain size 10 nm-100 microm at room
 temp. or high temp. and high pressure or shaping and heating. The
electrolyte
 comprises a hydroxide, carbonate, sulfate, phosphate, nitrate, halide,
 perchlorate, and/or B compd. of an alkali metal, alk. earth metal, Group
IIIB
 elements or transition metals" (Direct quote from Chem. Abstr. 123:299712
 (1995)).}
}

@misc{P.Noto1995,
 author    = {R. Notoya},
 title     = {Electrodes for cold fusion and methods for manufacturing
              radioactive and nonradioactive elements and noble metals
              using the nuclear transitions},
 year      = {1995},
 note      = {Jpn. Kokai Tokkyo Koho JP 09,197,077, Nov-95.},
 annote    = {"Materials which can bring about nuclear transitions are used
 as the electrode materials. The electrode materials contain >=1 element
whose
 at. no.  is in the vicinity of rare elements (elements whose amt. in the
 natural world is very little) and noble metals. Examples of the element
whose
 at. no. is in the vicinity of rare elements include W, Mo, Tc, Re, Ag, Cd,
 Hg, In, Tl, Sn, and Pb. The electrodes contain radioactive elements.
 Electrodes which contain materials which can bring about nuclear transitions
 are used to manufg. noble metals or rare elements. Compared with nuclear
 reactors and charged particle accelerators, the present method can manuf.
the
 desired materials with much more accuracy and easiness." (Direct quote from
 Chem. Abstr. 127:168014 (1997)).}
}
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@misc{P.Noto1996,
 author    = {R. Notoya},
 title     = {Manufacture of positron-emitting isotopes by an electrolytic
              system using cold fusion reaction.},
 year      = {1996},
 note      = {Jpn. Kokai Tokkyo Koho JP 10039096 Jul-96.},
 annote    = {"The isotopes, useful as positron sources for positron
 annihilation, are manufd. by using electrolytic cold fusion chain reaction
 system (claimed in JP07-174878) from M(A + 1), M(A + 2) and rarely M(A + 3)
 to M(A), from M(A - 1, Z - 1) to M(A, Z), from M(A - 1, Z) to M(A, Z), from
 M(A, Z + 1) to M(A, Z), or from M(A + 1, Z + 1) to M(A, Z) (A = mass no.; Z
=
 at. no.).  The source substances of the above method are manufd.  by the
same
 electrolytic system as the above.  The electrolytic condition is precisely
 controlled to give isotopes efficiently." (Direct quote from Chem. Abstr.
 128:222750 (1998)).}
}

@misc{P.Ofuk1989,
 author    = {E. Ofuku},
 title     = {Method for nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,285,283, 26-Apr-89.},
 annote    = {"To bring about a nuclear fusion reaction by electrolysis of
 heavy water, a H2-storing alloy comprising >=2 elements is used as the
 cathode. Typical alloys include La alloys (LaNi5, LaCo5, etc), Fe alloys
 (FeTi, Fe(1-x)Be(x)Ti, etc), Cr alloys (Cr(1.8)Ti), Mg alloys (Mg2Cu, Mg2Ni,
 etc), Cu alloys (Cu(x)Ti(1-x)), Mm (misch metal) alloys (MmNi5,
 MmNi(5-x)Al(x), etc), Ti alloys (TiCox, etc) and Ni alloys (Ni5Ca etc). An
 alloy with a higher H2-storing capacity is preferably used. Solvent heavy
 water purity >=90\% is desirable. An electrolyte to be added to the solvent
 includes DCl, DNO3, D2SO4, DClO4, LiCl, LiNO3, NaCl, NaNO3, etc. Preferred
 electrode potential is 2-20 V, and desirable elec. current is 10 mA/cm$^2$ -
 1A/cm$^2$". (Direct quote from Chem. Abstr. 116:160959 (1992)).}
}

@misc{P.Ogat1989,
 author    = {H. Ogata and N. Saho and Y. Ishikawa and Y. Mihara},
 title     = {Apparatus for nuclear fusion at room temperature},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,276,989, 5-Apr-89.},
 annote    = {"The app. comprises a container for heavy H2O, electrodes
placed
 in the heavy H2O, an elec. power source, a means to circulate the heavy H2O
 between the container and a heat exchanger, and a system of a heating
medium,
 which comments [sic] the heat exchanger and a power-extn. compartment".
 (Quoted from Chem. Abstr. 115:59218 (1991)).}
}

@misc{P.Ogin1989a,
 author    = {S. Ogino},
 title     = {Cold nuclear fusion apparatus},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,194,493, 22-Dec-89.},
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 annote    = {"The app. comprises an anode, a cathode, and an electrolyte
bath
 contg.  heavy H2O, where the cathode is formed of V, Sr, Y, Nb, Hf or Ta,
and
 adsorbs D produced by the electrolysis of heavy H2O". (Direct quote from
 Chem. Abstr.  115:289488 (1991)).}
}

@misc{P.Ogin1989b,
 author    = {S. Ogino},
 title     = {Cold nuclear fusion apparatus},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,194,494, 22-Dec-89.},
 annote    = {"The app. comprises an anode, a cathode, an electrolyte bath,
 and a means to expose cathode metal, where the electrolytic bath contains
 heavy H2O, the cathode is formed of a D-adsorbing metal, and the means keeps
 active the surface of the cathode metal". (Direct quote from  Chem. Abstr.
 115:289489 (1991)).}
}

@misc{P.Ojir1989,
 author    = {H. Ojiri and M. Nakamura},
 title     = {Apparatus for cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,150,284, 20-Sep-89.},
 annote    = {"An app. for cold nuclear fusion includes: (a) a chamber with
 a means to guide a D-contg. gas into it, and a exhaust means; (b) a
 plasma-generating means; and (c) a reactive substrate on which is a
 H-absorbing metal (e.g., Pd). Nuclear fusion is caused by contacting a plane
 of the gas with the reactive substance". (Direct quote from  Chem. Abstr.
 115:242242 (1991)).}
}

@misc{P.Olen2000,
 author    = {O.~L. Olendskii and A.~Yu. Terez},
 title     = {Low-temperature nuclear fusion reaction process in heavy
              fermion systems},
 year      = {2000},
 note      = {Application: RU  97-97110878  19970620 (2000).},
 annote    = {"Low-temp. nuclear fusion reaction process in heavy fermion
 systems is described.  The low-temp. nuclear fusion reactions occur during
 satn. of crystal lattice of compd. with deuterium and tritium nuclei.
 Nuclear reaction is accelerated by using compds. with heavy fermions in
which
 active mass of electrons grows tens-fold with the result that deuterium and
 tritium nuclei can draw together at distance required for fusion reaction.
 Proposed process implies that nuclear reactions proceed within entire vol.
 of specimen" (direct quote from Chem. Abstr. 135:38236 (2001)).}
}

@misc{P.Omor1989,
 author    = {T. Omori},
 title     = {Apparatus for cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,105,494, 07-Nov-89.},
 annote    = {"The app., which includes a reaction tank contg. D2O, a pair of
 discharge electrodes in the tank, and a power source to apply pulsed voltage
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 on the electrodes, and which causes nuclear fusion based on D ion generation
 by pulsed voltage, and a pressure wave produced by underwater plasma
 discharge, is equipped with a partition structure around the plasma-
discharge
 area, which controls the pressure of the wave". (Direct quote from
 Chem. Abstr. 115:242243 (1991)).}
}

@misc{P.Onch1989,
 author    = {M. Onchi and H. Tarui and K. Kuroki},
 title     = {Cooker based on cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 07,113, 5-Jun-89.},
 annote    = {"The title cooker comprises an outer container and an inner
 container for cooking materials, where the space between the 2 containers is
 filled with D2O. An anode (e.g. Pt) to generate O and a cathode from a
 H-absorbing material (e.g. Pd) are placed in the D2O, close to the inner
 container, and an elec. field is applied between the 2 electrodes to cause
 the electrolysis of D2O".  (Quoted from Chem. Abstr. 115:59225 (1991)).}
}

@misc{P.Oota1993,
 author    = {A. Oota},
 title     = {Cold nuclear fusion},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 07,113,885, 17-Oct-93.},
 annote    = {"Cold fusion comprises the steps (1) nonuniform occlusion of
 heavy hydrogen in a material made of different elements and (2) collision of
 neutrons with the material at ordinary temp. The different elements are made
 of <= 1 mu particles. A.C. is applied to the material. A temp. difference is
 established at 2 ends of the material. Cold fusion can be generated with the
 prodn. of a large amt. of heat". (Direct quote from Chem. Abstr. 123:125391
 (1995)).}
}

@misc{P.Oyab1998,
 author    = {Y. Oyabe and Y. Kamitani and S. Terasawa and T. Sano},
 title     = {Electrolytic method for increasing the amount of hydrogen
              absorbed in a palladium electrode and maintaining the hydrogen
              absorption in the electrode for a long time.},
 year      = {1998},
 note      = {Jpn. Kokai Tokkyo Koho JP 10018070 Jan 1998.},
 annote    = {"The method comprises (1) a process for establishing voltage
 for the electrolysis and (2) a process for increasing the amt. of hydrogen
 absorbed in a palladium cathode and maintaining the hydrogen absorption in
 the electrode for a long time.  In the 1st process, const.-voltage
 electrolysis is carried out, the specific resistance (R/R0) of the Pd
 electrode with respect to electrolysis time is measured, and the const.
 voltage obtained after the specific resistance reach a max. is measured.  In
 the 2nd process, const.-voltage electrolysis is carried out using the thus
 obtained const. voltage under the same conditions as those used in the 1st
 process except the voltage, for increasing the amt. of hydrogen absorbed in
 the palladium electrode and maintaining the hydrogen absorption in the
 electrode for a long time.  The object of the invention can be attained by
 using a simple method." (Direct quote from Chem. Abstr. 128:107686(1998)).}
}
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@misc{P.Patt1999,
 author    = {J.~A. Patterson and G.~H. Miley},
 title     = {Low temperature electrolytic nuclear transmutation},
 year      = {1999},
 note      = {PCT Int. Appl. WO 9919881 A1 22 Apr 1999,66 pp.},
 annote    = {"A method for producing low temp. nuclear transmutations by
 electrolysis in an aq. media.  New elements produced by transmutation are
 identified as having discrete peaks in occurrence by at. no. (Z) and by
 at. mass (A).  New complex nuclei produced by transmutation are identified
as
 having existed based upon the nature and occurrences of fission
transmutation
 elements produced.  The electrolytic cell includes a nonconductive housing
 having an inlet and an outlet and spaced apart 1st and 2nd conductive grids
 positioned therein.  A plurality of cross-linked polymer nonmetallic cores
 each having a uniform conductive exterior metallic surface formed of a high
H
 absorbing material form a bed of conductive beads closely packed within the
 housing in elec. contact with the 1st grid adjacent the inlet.  An elec.
 power source in the system is operably connected across the 1st and 2nd
 grids". (Direct quote from Chem. Abstr. 130:288304 (1999)).}
}

@misc{P.Phil1990,
 author    = {K. Philberth},
 title     = {Process for hydrogen fusion for peaceful purposes},
 year      = {1990},
 note      = {Ger. Offen. DE 4,024,515, 02-Aug-90.},
 annote    = {"The title process comprises fusion of H nuclei in contact with
 microclusters of 3-100,000 atoms contg. >= 1 Group B element. The
 microclusters can be obtained by cooling fine particles at high temp. The
 microclusters are deposited on an electrode surface which is used in
 electrolysis of a liq. contg. H." (Direct quote from Chem. Abstr. 116:243662
 (1992)).}
}

@misc{P.Phil1992,
 author    = {K. Philberth and B. Philberth},
 title     = {Cold fusion of hydrogen nuclei},
 year      = {1992},
 note      = {Ger. Offen. DE 4,203,094, 04-Feb-92.},
 annote    = {"The title process comprises formation of microclusters or
 materials in presence of D and carrying out fusion under strong charge where
 the strong charge also allows measurement for fusion products. The
 microclusters are produced by evapg., e.g., Pd in presence of D and cooling
 where the microclusters contain 3-100,000 atoms of the component" (direct
 quote from Chem. Abstr. 120:176069 (1994)).}
}

@misc{P.Pons1990,
 author    = {S. Pons and M. Fleischmann and C.~T. Walling and J.~P. Simons},
 title     = {Method and apparatus for power generation},
 year      = {1990},
 note      = {World Pat. Appl. WO 90/10935.  12 March 1990.},
 annote    = {about 100 pp.; it starts off by naming 7 earlier US pat.
 applications, going back to March 13, 1989, of specific claims such as heat
 generation, neutron beam method, power generation. This one combines all of
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 these, and "relates to methods and apparatuses for generating heat,
neutrons,
 tritium or electrical power, and in one illustration, to an apparatus which
 utilises heat produced by compressing low atomic weight nuclei in a metal
 lattice under conditions which produce excess heat, possibly involving
 nuclear fusion".  A number of materials, preferably palladium or other
 metals, are suggested, as well as deuterium, to produce heat, tritium and
 "neutron beams" by collimation; these can then be used for neutron
 radiography, - diffraction, - activation, etc. In all, 50 claims are
 made. New ideas, not previously exposed in the authors' publications, are
the
 formation of the isotopic hydride by transfer from another hydride (LiD etc)
 to the metal; and the use of radioactive dopants in order to knock the PdD
 lattice with neutrons, alpha or beta particles.}
}

@misc{P.Preu2000,
 author    = {H. Preussker},
 title     = {Heat engine with deuterium as fuel},
 year      = {2000},
 note      = {Ger. Offen. DE 19845223 A1 6 Apr 2000.},
 annote    = {"The process consists of using Xe as the operating gas in an
 engine, injecting D in the compressor chamber, cause cold fusion of D with
Xe
 as catalyst, use the heat generated from the fusion reaction to drive the
 engine, and finally remove the fusion product, He, from the gas mixt."
 (Direct quotation from Chem. Abstr. 132:243090 (2000)).}
}

@misc{P.Rabi1990a,
 author    = {M. Rabinowitz and D.~H. Worledge},
 title     = {Enhancing nuclear fusion rate in a solid},
 year      = {1990},
 note      = {Int. Pat. Appl. WO 90/13128, 1-Nov-90.},
 annote    = {Methods for increasing the collision rate of light isotopes in
 a carrier (i.e. deuterium in Pd, Ti etc). One way is to constrain the
isotope
 to one- dimensional motion by making the carrier in the form of thin
 filaments, or by providing thin channels, or thin layers, within it. This is
 done by a number of techniques such as vapour deposition, sputtering and ion
 bombardment or by using material that has such channels or layers
 naturally. The use of heavy fermion material will yield electrons with large
 effective mass, which will aid in overcoming the Coulomb barrier between
 deuterons and the like. Other suggestions are made. 21 claims are made.}
}

@misc{P.Rabi1990b,
 author    = {M. Rabinowitz and J. Santucci and D.~H. Worledge},
 title     = {Isotope deposition, stimulation, and direct energy conversion
              for nuclear fusion in a solid},
 year      = {1990},
 note      = {Int. Pat. Appl. WO 90/14670, 29-Nov-90.},
 annote    = {The invention provides techniques for deposition of light
 isotopes in a hydrogen absorbing solid and their stimulation to accelerate
 their fusion, in various embodiments such as a metal with planar, channel
 construction, thermal (laser) stimulation to produce high hydrogen isotope
 concentration, laser ablation to produce a shock wave, and the use of
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 ultrasonics for aiding with the loading and stimulation. Techniques for the
 conversion of the energy to electricity are included. The metal is loaded by
 alternate vapour deposition of metal, deuterium, metal, etc, in thin layers.
 16 claims.}
}

@misc{P.Rate1993,
 author    = {H. Ratenhaus},
 title     = {Methods for cold fusion of hydrogen nuclei in a self-excited
              process},
 year      = {1993},
 note      = {Ger. Offen. DE 4,307,693, Mar-93.},
 annote    = {"Methods for fusion of hydrogen nuclei in metal lattices entail
 carrying out the fusion as a self-excited potential hydrogen fusion (PHF)
 process to generate charged highly energetic end products which, in turn,
 produce electron cascasdes in the host lattice of electrons having high
 kinetic energies which can initiate further PHF reactions. The host metal
may
 have a large neg. charge applied to it while the PHF reaction proceeds"
 (direct from Chem. Abstr. 120:282765 (1994)).}
}

@misc{P.Sado1991,
 author    = {D.~R. Sadoway},
 title     = {Media for solid state fusion},
 year      = {1991},
 note      = {PCT Int. Appl. WO 91 06,959, 16-May-91.},
 annote    = {"Apps. for electrochem. as well as thermochem. fusion are
 provided.  Material systems consisting of D storage intermetallic compd.,
 transition metal/rare earth metal intermetallic compd. and elemental
material
 cathodes are combined with compatible electrolytes including solid deuteride
 electrolytes, cryogenic electrolytes, and supercrit. D in electrochem.
fusion
 app. wherein a magnetic field may be provided to enhance fusion initiation
in
 the cathodes. The invention enables the operation of these electrochem. and
 thermochem. fusion apps. over a wide range of temps. and pressures which may
 be adjusted to optimise the efficiency of the solid state fusion reaction".
 (Direct quote from Chem. Abstr. 115:192160 (1991)).}
}

@misc{P.Saho1989,
 author    = {N. Saho and H. Ogata and Y. Ishikawa and Y. Mihara},
 title     = {Apparatus for nuclear fusion at room temperature},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,276,991, 5-Apr-89.},
 annote    = {"The app. which comprises a heavy-H2O container, electrodes
 placed in the container, and an elec. power source, is characterized in
that:
(1) a coolant fills the cathode interior; and (2) the coolant-circulation
system includes means to condense the coolant vapor, and to ext. power. The
b.p. of the coolant may be set lower that that of heavy H2O". (Quoted from
Chem. Abstr.  115:59219 (1991)).}
}

@misc{P.Saka1990,
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 author    = {M. Sakawa and R. Takagi and H. Numata},
 title     = {Cold nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 04 115,188, 6-Sep-90.},
 annote    = {"In cold nuclear fusion, coal is heated in the presence of a
 pressurised D gas". (Direct quote from Chem. Abstr. 117:180352 (1992)).}
}

@misc{P.Samg1993,
 author    = {A.~L. Samgin and A.~N. Baraboshkin and V.~S. Andreyev
              and I.~V. Murigin and V.~P. Gorelov and S.~V. Vakarin
              and S.~A. Tsvetkov},
 title     = {Methods and apparatus for producing neutrons from
              proton-conductive solids},
 year      = {1993},
 note      = {PCT Int. Appl. WO 95 15,563, 03-Dec-93.},
 annote    = {"App. and methods for producing neutrons at relatively low
 temps. from a heterostructure based upon solid electrolytes are
 described. The methods involve selecting a solid proton-conducting
 electrolyte material which under predet. conditions exhibits a phenomenon of
 nonlinear transport and distribution of diffused hydrogen isotopes.
 Generally, one of the conditions involves raising the material in the form
of
 a solid electrolyte mass to a predet. temp. where nuclear reactions take
 place under predictable situations.  The methods and app. also involve
 applying a voltage across the solid electrolyte mass by means of an anode
and
 a cathode disposed across opposite faces of the solid electrolyte mass to
 construct a reactor element. At least the anode and facing of mass
 assocd. with the anode are made to be permeable to the flow of isotopic
 hydrogen. The reactor element is disposed in a vacuum chamber which is
 serviced by a vacuum pump and source of hydrogen isotope. A thermo-heater is
 used to control the operating temp. of the mass, and a power supply is
 connected across an anode and cathode to provide the desired voltage and
 current". (Direct quote from Chem. Abstr. 123:181584 (1995)).}
}

@misc{P.Sard1990,
 author    = {C.~G. Sardin},
 title     = {Electrochemical nuclear reactors based on hybrid (H,D)
              cold fusion in a solid matrix},
 year      = {1990},
 note      = {Span. ES 2,037,628; Aug-90.},
 annote    = {"The cathode of the reactors is charged with H formed by the
 electrolysis of water, and contains a cavity into which pressurized D,
 obtained by electrolysis of heavy water and stored in a receiver, is
 injected. The tube, connecting the receiver for D with the cavity in the
 cathode serves also as elec. conduit. The metal of the cathode consists of
 Ti, Th, V, Zr, Pd, Nb, Ta, or of alloys with each other or other metals.
 Preferably the cathode consists of Ti, Pd or Pd alloyed with Ag, and may be
 coated with a material that is impervious to H. The H is used as the
 combustible material, and the D as combustion-inducing agent". (Direct quote
 from Chem. Abstr. 120:89078 (1994)).}
}

@misc{P.Sasa1991,
 author    = {N. Sasao and H. Funasaka and N. Uehara},
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 title     = {Manufacture of hydrogen-absorbing metal body},
 year      = {1991},
 note      = {Jpn Kokai Tokkyo Koho JP 04,311,542, 11-Apr-91.},
 annote    = {"The body is manufd. by shaping Pd, Ti, or U micrograins
 (<= 10 microns) with a rubber pressing app. and sintering the compact in a
 nonoxidizing atm.  The metal body mayb eused as a D-absorber for "cold
 nuclear fusion" studies".  (Direct quote from Chem. Abstr. 118:156595
 (1993)).}
}

@misc{P.Sato2003,
 author    = {S. Sato},
 title     = {Three-phase alternating-current cold fusion},
 year      = {2003},
 note      = {Jpn. Kokai Tokkyo Koho  (2003),  JP  2003185773.},
 annote    = {"The invention relates to a three phase a.c. cold fusion based
 on water electrolysis, wherein three electrodes appropriately placed in an
 electrolysis system are provided with single phase a.c. derived from a
 three-phase alternating-current source.  The electrode surface may comprise
 vanadium, nickel, chromium, iron, tin, copper, and their combinations."
 (Direct quote from CAS).}
}

@misc{P.Scar1990,
 author    = {F. Scaramuzzi and A. {De Ninno} and S. Podda and A. Frattolillo
              and G. Lollobattista and M. Martone and L. Mori and L.
Martinis},
 title     = {A system for producing neutrons and heat by nuclear fusion
              in a gas absorbed on a metal},
 year      = {1990},
 note      = {Eur. Pat. Appl. EP 0 394 204, 11-Apr-90.},
 annote    = {A system, and "an equipment" for pressurised gas-phase
 deuterising of metals, and temperature cycling, so as to produce cold
 fusion. Some neutron emission results are shown.}
}

@misc{P.Scho1989,
 author    = {G.~J. Schoessow},
 title     = {Electrochemical nuclear process and apparatus for producing
              tritium, heat, and radiation},
 year      = {1989},
 note      = {PCT Int. Appl. WO 91 02,360, 30-Jun-89.},
 annote    = {"A process for the prepn. and recovery of T, heat energy, and
 radiation energy by electrolysis of a liq. medium contg. D2O in an
 electrolytic cell having a cathode of Pd, or certain other elements by
 operating the process at ca. 10-300 degC and an app. for this process are
 described the cathode comprises a central solid geometrical mass and the
 anode is an open top cup-shaped vessel positioned adjacently below and
 encircling the cathode".  (Quoted from Chem. Abstr. 114:2554497 (1991)).}
}

@misc{P.Seel1989,
 author    = {D. Seeliger},
 title     = {Arrangement for cold fusion in electrochemical cell},
 year      = {1989},
 note      = {Ger. (East) DD 293,147, 12-May-89.},
 annote    = {"The title arrangement comprises a D-contg. electrochem. fusion
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 cell with a D-oxidizing anode. The evolved gases from the cathode are fed
 into the anode where D and O recombine to form D2O. This arrangement reduces
 the loss of heavy water during the electrolytic fusion of D". (Direct quote
 from Chem.  Abstr. 116:70224 (1991)).}
}

@misc{P.Shaf1989,
 author    = {G. Shaffer},
 title     = {Chemo-nuclear fusion methods},
 year      = {1989},
 note      = {PCT Int. Appl. WO 91 01,037, 13-Jul-89.},
 annote    = {"A method of causing D mols. to combine to become He atoms
 in the presence of a Pd catalyst comprises providing a reactor chamber
 contg. D2O and a Pd catalyst, introducing controlled amts. of D into the
 chamber so that the D mols. are absorbed by the Pd catalyst where the Pd
 catalyst executes a simultaneous shift of 2 electrons, leaving 2 stripped D
 nuclei trapped in single Pd clathrate cages. The juxtaposed D nuclei in a
 single cage and having the effect of the absorption energy exerting
 tremendous compressive forces collapse to form an alpha-particle and release
 relativistic energy as gamma-ray or kinetically as heat. Finally, the
evolved
 heat is transferred to perform useful work". (Quoted from Chem. Abstr.
 114:2554492 (1991))}
}

@misc{P.Shin1993,
 author    = {A. Shin},
 title     = {Method for improving the efficiency of cold nuclear fusion},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,273,552, 15-Mar-93.},
 annote    = {"A H-absorbing electrode is placed in a magnetic field, thereby
 directivity is imparted to the H atoms in the electrode so that the d. of H
 atoms is raised which facilitates cold nuclear fusion". (Direct quote from
 Chem. Abstr.  122:66446 (1995)).}
}

@misc{P.Shir1993,
 author    = {K. Shiraishi},
 title     = {Radiation-induced nuclear fusion in a solid and energy
              generation},
 year      = {1993},
 note      = {Jpn Kokai Tokkyo Koho JP 06,258,469, 04-Mar-93.},
 annote    = {"Radiation-induced title fusion is described. The method may
 involve electrolysis of D2O, T2O, or their mixt., by occluding generated H
 isotopes of in a cathode, and by then irradiating the cathode. The cathode
 may be Pd or Ti. The energy is generated from fusion by heat-exchange of the
 heated electrolyte". (Direct quote from Chem. Abstr. 122:18697 (1995)).}
}

@misc{P.Stei1989,
 author    = {C. Steinert},
 title     = {Fusion reactor},
 year      = {1989},
 note      = {Ger. Offenb. DE 3,923,468, 15-Jul-89.},
 annote    = {"A nuclear fusion reactor concept based on cold fusion is
 described. The reactor comprises a series of fusion chambers sepd. by
 expansion chambers.  Electrodes serve as hydrodynamic seals for the entrance
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 and outlet of electrolytes from the fusion chambers. The fusion chambers
also
 connected to each other, e.g. by capillary tubes. The expansion rooms have
 pressure-sensitive windows for irradn. with laser beams, surrounding the
 fusion chambers is moderator". (Direct quote from Chem. Abstr. 115:146547
 (1991)).}
}

@misc{P.Stor2003,
 author    = {E. K. Storms},
 title     = {Electrolytic heat source},
 year      = {2003},
 note      = {Application: US  2003-647774  20030825.},
 annote    = {"An electrolytic cell with electrodes on which special
materials
 are deposited to produce heat energy in excess of input energy supplied in
 the form of elec. power.  Heat producing deposits are deposited on a cathode
 before it is placed in the heat-producing cell.  In preferred embodiments
 palladium and gold particles in any combination are applied to a platinum
 cathode.  These prepd. cathodes produce excess power when electrolyzed
within
 an electrolytic cell contg. heavy water in which LiOD is dissolved.  This
 specification describes how the energy amplification conditions can be
 created at will, with complete reproducibility.  The process results in
 excess power very soon after elec. power is applied to the device as
compared
 to prior art expts. in which the excess power is detected only after a long
 period of electrolysis". (Direct quote from Chem. Abstr.  142:227592).}
}

@misc{P.Taka1989,
 author    = {A. Takahashi},
 title     = {Nuclear fusion device},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 06,491, appl. 04-Jun-89.},
 annote    = {"Ti or Pd adsorbed H, D or T is irradiated with electromagnetic
 wave, or exposed to an elec. field or magnetic field to cause nuclear
 fusion. Thus, a cyclindrical cathode composed of Au or Pt is covered with a
 light-transmitting cover such as heat-resistant glass, and sealed with a
 heat-resistant bottom plate. The anode consisting of Ti or Pd is placed in
an
 environment mainly composed of H, D or T. D.c. is applied to the
 electrodes. D2 evolved by the electrolysis is adsorbedinto the anode, and
 compacted among the elemental lattices up to a level of 10**2, and when
 irradiated at the specific condition, causes nuclear fusion producing (3)He
 and n".  (Quoted from Chem. Abstr. 115:37288 (1991)).}
}

@misc{P.Takag1992,
 author    = {M. Takagi},
 title     = {Room-temperature nuclear fusion heat generating apparatus,
              steam-generating apparatus, and power generating plants},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06 34,776; 15-Jul-92.},
 annote    = {"In a fusion heat-generating app. having a power source circuit
 for electrolysis connected between the anode and the cathode in D2O and
 absorbing D2 at the cathode, generating by applying a voltage to generate
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 excess heat, a power circuit for excitation is installed sep. from the power
 source for electrolysis to increase the c.d. of the cathode to promote the
 absorption of the D2. In the same vessel, an electrolytic chamber and a
 steam-generating chamber are sepd. by a partition, the electrolysis chamber
 is sealed and contains D2O inside it, an anode and a cathode are immersed in
 the D2O and connected to the power source circuit for electrolysis. The
 steam-generating chamber accomodates light water and there is a water-supply
 port at its lower part and a steam outlet at its upper part and at least
part
 of the partition is in the cathode to form a heat-exchange wall of the 2
 chambers. Sep. from the power source circuit for electrolysis, a power
source
 circuit for excitation is connected to the cathode to form the
 steam-generating app. The plant comprises (1) the steam-generating app., (2)
 a steam turbine connecting the water-supply port and a steam outlet at the
 steam-generating chamber via steam pipes and condensing pipes, and (3) a
 power generator operated by the steam turbine. Heat can be generated
 efficiently". (Direct quote from Chem.  Abstr. 121:215643 (1994)).}
}

@misc{P.Taka1992a,
 author    = {A. Takahashi and T. Iida},
 title     = {Method for anomalous generation of heat},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06 34,777; 17-Jul-92.},
 annote    = {"In injecting D into a Pd cathode plate by the electrolysis of
 an aq. soln comprising heavy water and/or light water, low c.d. electrolysis
 is carried out alternatively with high c.d. electrolysis to uniformly inject
 D into both the front and rear sides of the Pd plate to conc. D in the Pd
 metal lattice.  It provides a method for generating abnormal heat with good
 reproducibility".  (Direct quote from Chem. Abstr. 121:215642 (1994)).}
}

@misc{P.Taka1992b,
 author    = {A. Takahashi and H. Ikegami},
 title     = {Method for generating anomalous heat},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,186,363, 18-Dec-92.},
 annote    = {"Heavy hydrogen is injected into a Pd cathode plate by
 electrolysis of heavy water and/or light water soln. A low-c.d. electrolysis
 and a high-c.d.  electrolysis were alternately carried out to inject D ions
 uniformly from both sides of a Pd cathode plate with D2 gas shielding
 membranes on both sides of the cathode plate (which shield D2 gas but are
 permeable toward D ions so that only D ions are absorbed) to conc. the D2 in
 the lattice of the Pd metal.  Thereby anomalous heat is generated. The
method
 can be used for open or closed electrolytic cells, and the reproducibility
of
 the generation of the anomalous heat is good". (Direct quote from
 Chem. Abstr. 121:266206 (1994)).}
}

@misc{P.Taka1993,
 author    = {A. Takahashi},
 title     = {Ordinary temperature nuclear fusion},
 year      = {1993},
 note      = {Jpn Kokai Tokkyo Koho JP 06,249,982, 25-Feb-93.},
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 annote    = {"The method involves electrolysis in D2O by using Pd electrodes
 wound by Pt wire electrodes via polyethylene or teflon plates by applying
 interrupted current in the initial step for 1 h and applying pulse current
to
 accelerate nuclear reaction and to generate extraordinary heat". (Direct
 quote from Chem. Abstr. 122:18695 (1995)).}
}

@misc{P.Taken1993,
 author    = {K. Takeno and T. Take and M. Mino and T. Koyashiki
              and M. Ishizawa and T. Masashiro},
 title     = {Power-generator using cold fusion},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,258,468, 03-Mar-93.},
 annote    = {"The power-generator has a cold fusion unit consisting of a
 layer of H isotope-occluded substance sandwiched with (1) a substance having
 a low diffusion coeff. for H isotopes and (2) a substance which reacts with
 the H-occluded substance to form a solid soln. The fusion is accomplished at
 < 1500 C". (Direct quote from Chem. Abstr. 122:18696 (1995)).}
}

@misc{P.Takeu1995,
 author    = {T. Takeuchi},
 title     = {Apparatus for generating heat by occluding heavy hydrogen
              in hydrogen-occluding metal},
 year      = {1995},
 note      = {Jpn. Kokai Tokkyo JP 07,120,574, 26-Oct-93.},
 annote    = {"The app. contains a means to detect the quantity of heavy
 hydrogen occluded in the hydrogen-occluding metal. Optionally, the app. may
 contains [sic] a means to detect >=1 of radiation and nonradioactive
 particles generated from the surface of the metal. The heat-generating
 reaction can be carried out stably". (Direct quote from
 Chem. Abstr. 123:95815 (1995)).}
}

@misc{P.Tana1989,
 author    = {M. Tanaka and S. Hattori},
 title     = {Power generator and heater based on cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,278,189, 19-Apr-89.},
 annote    = {"A power generator based on cold nuclear fusion comprises:
 (1) a device for electrolysis of D2O; (2) a steam generator utilizing hot
 D2O; (3) a steam turbine; (4) a steam condenser; (5) a pump to send H2O from
 the condenser to the steam generator; (6) a means to burn D with O; (7) A
 steam heater; and (8) a pump to send D2O from the steam generator and the
 steam heater to the electrolysis device. A heater based on cold nuclear
 fusion comprises: (1) a device for electrolysis of D2O; (2) a 1st means to
 heat a fluid with hot D2O or D2O steam from the electrolysis device; (3) a
 means to burn D with O; (4) a 2nd means to heat the fluid or a 2nd fluid
 requiring higher temp., with the D2O steam from the combustion means; and
(5)
 a pump to send D2O from the 1st and 2nd heating means to the electrolysis
 device" (Quoted from Chem. Abstr.  114:255489 (1991))}
}

@misc{P.Tana1992,
 author    = {Y. Tanaka},
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 title     = {Electrolysis-type low-temperature nuclear fusion reactors},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 07318672 A2,  Appl. 26-Mar-92.},
 annote    = {"In a water electrolytic cell, a hydrogen-absorbing material
 such as Pd or Ti is used as a cathode, permanent magnets or electromagnets
 are arranged inside or outside the electrolytic cell so the lines of
magnetic
 force can pass through the cathode. A small quantity of light water is added
 to the heavy water or only light water is used for electrolysis. Excess heat
 can be continuously generated." (Direct quote from Chem. Abstr. 124:158512
 (1996)).}
}

@misc{P.Tani1989,
 author    = {N. Taniguchi and K. Gamo and J. Niikura and K. Adachi},
 title     = {Apparatus for cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,107,791, 21-Sep-89.},
 annote    = {"The app. includes a cathode to adsorb (in crystal lattices or
 on the surface) a H isotope(s), an anode from a metal, its oxide, or its
 hydroxide, and an electrolyte contg. at least a H isotope. The electrodes
are
 film-shaped. Nuclear fusion is caused based on the electrolysis of the
 electrolyte." (Direct quote from Chem. Abstr. 115:289486 (1991)).}
}

@misc{P.Tani1990,
 author    = {N. Taniguchi and K. Gamo and M. Baba and J. Niikura
              and K. Hado and K. Kawamura},
 title     = {Cold-nuclear-fusion apparatus},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 04 84,797 26-Jul-90.},
 annote    = {"A cold nuclear-fusion app. is based on moving and reacting
 a H isotope (e.g. D) between an alpha phase (in which movement of an H
 isotope is easy) and beta phase (in which movement of H isotope is
difficult)
 in all the H-isotope-adsorbing substances (e.g. Pd)." (Direct quote from
 Chem. Abstr.  117:120298 (1992)).}
}

@misc{P.Toku1989,
 author    = {H. Tokunaga},
 title     = {Preliminary treatment of hydrogen holder},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 69,504, 04-Aug-89},
 annote    = {"Before adsorbing D (for cold nuclear fusion), a H holder
 (e.g. Pd) is either heated or placed in vacuum. The process can ext. H from
 the H holder, and adsorb highly pure D". (Direct quote from Chem. Abstr.
 115:217011 (1991)).}
}

@misc{P.Tosa1991,
 author    = {S. Tosaka},
 title     = {Laminated electrode structure for cold fusion},
 year      = {1991},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,33,687 13-Feb-91.},
 annote    = {"The electrode consists of >= 1 Pd layer and >= 1 Pt layer via
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 a continuous pore-having porous elec. insulating layer. The Pd layers may be
 connected with outer electrode layers. The electrode had wide Pd area for
 high-efficiency cold fusion". (Direct quote from Chem. Abstr. 115:80703
 (1991))}
}

@misc{P.Tsud1989,
 author    = {S. Tsuda and N. Nakamura and S. Nakano},
 title     = {Apparatus for cold nuclear fusion using solid bodies},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 02,302,693, 17-May-89.},
 annote    = {"The app. comprises a solid body contg. a large amt. of D, and
 a means to supply excitation energy to the body. The solid body may be of C,
 Si, Ge, Sn or Pb. The energy may be supplied by heating, elec.-field
 application, electromagnetic-wave application, and/or supersound
 application". (Quote from Chem. Abstr. 115:59221 (1991)).}
}

@misc{P.Tsve2000,
 author    = {S. A. Tsvetkov},
 title     = {Nuclear fusion method and device},
 year      = {2000},
 note      = {Application: RU  97-97120419  19971210 (2000).},
 annote    = { "Method and device for processing nuclear fusion reaction is
 proposed.  In this method prior to satg. work piece with gaseous deuterium,
 the latter is mixed up with atm. air whose proportion in gas mixt. is to be
 0.1 to 4.09\% of total vol.  For satg. work piece with gaseous deuterium and
 initiating nuclear fusion, gaseous deuterium mixed up with air in mentioned
 proportion is supplied to reactor chamber at rate sufficient for heating
work
 piece 3 to 50-2000/s in the course of satn.  Device implementing this method
 has means for evacuating reactor chamber, whose inlet pipe connection
 communicates with space of reactor chamber through first valve means for
 heating and cooling work piece in reactor chamber, instruments for measuring
 temp. of work piece and pressure, as well as source of working medium
 incorporating gaseous deuterium and atm. air.  The method permits to improve
 radiation power, heat energy output, and reproducibility of nuclear fusion
 reactions" (direct quote from Chem. Abstr. 135:38237 (2001)).}
}


@misc{P.VanN1989,
 author    = {P. J. {Van Noorden}},
 title     = {Process and apparatus, and the use of the apparatus in
              electrolysis-nuclear fusion},
 year      = {1989},
 note      = {Neth. Appl. NL 89 02,962, 01-Dec-89.},
 annote    = {"The process comprises the application of a magnetic field.
 The app., comprising an electrolytic cell equipped with 2 electrodes,
 addnl. comprises means for generating a magnetic field in the electrolytic
 cell. The use of the app. comprises filling the cell with an electrolyte
 comprising LiD dissolved in heavy water. The use of the magnetic field
 increases the rate at which the alleged cold fusion occurs in the D-loaded
Pd
 electrodes. The electrodes (Pt anodes and Pd and Ti cathodes) are connected
 to one elec. source, and the means for generating the magnetic field, i.e.,
a
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 cooled, hollow coil, is connected to another elec. source, i.e. a battery".
 (Direct quote from Chem. Abstr. 115:242244 (1991)).}
}

@misc{P.Vand1989,
 author    = {J. {Van den Bogaert}},
 title     = {Energy production by nuclear fusion},
 year      = {1989},
 note      = {Belg. BE 1,002,781, 5-Jun-89.},
 annote    = {"In this process, in which a fusible material is absorbed in
 the crystal lattice of a H-absorbing material that has a neg. elec.
polarity,
 the fusible material is, or is being, absorbed by a H-absorbing material in
 the form of individual particles having a neg. electrostatic charge, after
 which the polarity of the particles is changed from neg. to pos. This
process
 is esp.  aimed at the controlled fusion of D, optionally mixed with T, in
the
 crystal lattice of the H-absorbing material, at high efficiency. The
 H-absorbing material is a metal or alloy consisting of, or contg., >=1
 element selected from, Pd, Ti, Zr, V, Th, Nb, Ta, Ni and Fe. A turbulent
 aerosol or suspension of colloidal or cryst. particles (av. particle size
 0.1-0.001 mu) in D is supplied in an upflow through a vertical quartz tube
 internally coated with an elec. conductive coating or metal foil, e.g., Al
or
 Cu, connected to the neg.  electrode of a d.c. source. A cooled pos. charged
 plate (anode) is located above the tube, the polarity of the particles
 contg. the absorbed D is changed upon contact with the anode, and the
 pos. ions, e.g. triton, formed by nuclear fusion are then expelled from the
 Pd particles. The ions then flow downwards, are neutralised at the cathode
in
 the conical bottom of the reactor, and the Pd particles are then sepd. from
 the aerosol in, e.g., a hydrocyclone. The Pd particles may be elec. charged
 in an insulating oil, e.g. a silicone oil. The heat generated by the fusion
 is removed by the heat transfer medium with which the anode is cooled".
 (Direct quote from Chem. Abstr. 116:12357 (1992)).}
}

@misc{P.Vigi1990,
 author    = {J.~P. Vigier and M. Rambaut},
 title     = {Method and apparatus for producing fusion energy
              from heavy water},
 year      = {1990},
 note      = {Fr. Demande FR 2,661,033, 17-Apr-90.},
 annote    = {"The title process and app. comprises a combustion chamber, a
 tube ending in the chamber, means for introducing heavy water in the tube
 by. e.g., a water-arc gun, ejecting simultaneously 2 clusters in opposite
 directions, means for applying a pulsed elec. discharge on water to produce
 an electrodynamic pressure and to accelerate the clusters to a hypervelocity
 and eject them outside the tube into the combustion chamber, means for
 placing fusible material on the trajectory of the accelerated clusters, and
 means of recovering fusion energy". (Direct quote from Chem. Abstr.
 116:160966 (1992)).}
}

@misc{P.Wada1989a,
 author    = {N. Wada},
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 title     = {Cold nuclear fusion in solids, and apparatus therefor},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 160,395, 18-Nov-89.},
 annote    = {"The process includes: (a) evaluating a reaction chamber;
 (b) activating a solid body (e.g. Pd) which adsorbs a nuclear-fusion-causing
 gaseous material (e.g. D); (c) supplying a predetd. amt. of the gaseous
 material; and (d) allowing the body to adsorb the gaseous material close to
 satn. The surface of the solid body may be cleaned in short time by glow
 discharge. An app. for the process includes means to take out heat caused by
 the nuclear fusion".  (Direct quote from Chem. Abstr. 115:217014 (1991) ).}
}

@misc{P.Wada1989b,
 author    = {N. Wada},
 title     = {Cold nuclear fusion in solids},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 160,396, 18-Nov-89.},
 annote    = {"The process includes: (1) allowing a solid to adsorb a
 nuclear-fusion- -causing material (as an eutectic element) to almost satn.;
 and (2) exciting the solid (by, e.g., elec. discharge) to cause sudden
 supersatn., which creates high local concn. of the material". (Direct quote
 from Chem. Abstr.  115:217013 (1991)).}
}

@misc{P.Wada1989c,
 author    = {N. Wada},
 title     = {Forming elements by cold nuclear fusion in solids},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 160,397, 18-Nov-89.},
 annote    = {"The process includes: (a) evacuating a reaction chamber;
 (b) activating a gas-adsorbing body (e.g. Pd) in the vacuum chamber; (c)
 supplying a nuclear-fusion-causing gaseous material into the chamber; (d)
 allowing the body to adsorb the gaseous material to satn.; (e) causing
 nuclear fusion by the material adsorbed in the body; and (f) recovering the
 fusion product".  (Direct quote from Chem. Abstr. 115:217012 (1991)).}
}

@misc{P.Wada1992,
 author    = {N. Wada and T. Goto},
 title     = {Room-temperature nuclear fusion},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06 88,887; 20-Apr-92.},
 annote    = {"The process comprises the steps of (1) prepg. a D2-absorbing
 material, (2) positioning the material, (3) activating the surface of the
 material, (4) adhering a substance which can trigger room-temp. nuclear
 fusion on the activated surface, and (5) placing the material in a container
 and filling up the container with D2 to carry out room-temp. nuclear
 fusion. The trigger substance contains Si (such as Si, SiC, or silicone
 grease). The efficiency of room-temp. nuclear fusion is improved". (Direct
 quote from Chem. Abstr.  121:240372 (1994)).}
}

@misc{P.Wads1989,
 author    = {M.~E. Wadsworth and J.~G. Byrne and J. Li},
 title     = {Method of preparing electrodes for use in
              heat-generating apparatus},
 year      = {1989},
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 note      = {Can. Pat. Appl. CA 2,023,216, 15-Aug-89.},
 annote    = {"An improved method of treating material for use in a
 heat-generating method involving the absorption of H isotope into the
 material comprises treating the material to substantially remove impurities
 in the surface region and then depositing a thin film of a substance capable
 of absorbing on the surface of the material. An optional addnl. treatment is
 to substantially remove H already absorbed in the material, then heat the
 material in an atm.  of H isotope to percharge the material with the H
 isotope. A method of producing electrode and method of enhancing absorption
 are also claimed".  (Direct quote from Chem. Abstr. 115:100641 (1991)).}
}

@misc{P.Wais1991,
 author    = {J.~L. Waisman},
 title     = {Producing heat from a solute and crystalline host material},
 year      = {1991},
 note      = {PCT Int. Appl. WO 93 05,516, 28-Aug-91.},
 annote    = {"A method and app. for prodn. of heat comprises injecting a
 solute contained in a loading fluid into a host material, the solute being
 selectively D or T, selecting the host material to include a cryst.
structure
 capable of absorbing the solute, maintaining the solute contg. the loading
 fluid and the host at a concn., temp. and pressure for a time sufficient to
 insure diffusion into the host material, and enabling the host material to
 produce heat consequent to the introduction of the solute into the host
 material, the rate of heat prodn. being at a controllable, effective
 intensity". (Direct quote from Chem. Abstr. 119:212758 (1993)).}
}

@misc{P.Wais2003,
 author    = {J. L. Waisman and R. H. Summerl},
 title     = {"Deuterium heat generator"},
 year      = {2003},
 note      = {U.S. Pat. Appl. Publ.  (2003), 38 pp., Cont.-in-part of
              U.S. Ser. No. 348,142, abandoned.  US  2003053579},
 annote    = {"This invention is a reactor and system with a method for
contg.
 and controlling a D nuclear fusion reaction in a Pd host metal lattice, now
 generally referred to as solid state fusion.  The reactor is designed for
 high temp. operation at moderate D gas pressures and is operable over a
 temp. range of 400 to >1400 Deg.  The solid state fusion reaction is enabled
 and controlled by providing specific combinations of reactor temps.  and D
 gas pressures.  The invention is capable of generating heat densities that
 are suitable for com. applications.  The highest heat densities are produced
 at higher temps. and moderate pressures where the system is most efficient
 and cost effective." (Direct quote from Chem. Abstr. 138:211812).}
}

@misc{P.Wang1993,
 author    = {J. Wang},
 title     = {Induced cold nuclear fusion},
 year      = {1993},
 note      = {Faming Zhuanli Shenqing Gongkai Shuomingshu CN 1,077,563,
              24-Apr-93.},
 annote    = {"The title technique comprises energy transmission from the
 inducing particle to the fusion material by collision. The following
 particles or their combination can be used as the inducing particle:
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 alpha-particle, neutron, proton, ion electron, and muon". (Direct quote from
 Chem. Abstr. 120:333539 (1994)).}
}

@misc{P.Wata1990a,
 author    = {M. Watanabe and M. Baba},
 title     = {Electrodes for cold nuclear fusion},
 year      = {1990},
 note      = {Jpn. Kokai Tokkyo Koho JP 04,157,395, 19-Oct-90.},
 annote    = {"An electrode for cold nuclear fusion consists of a D-adsorbing
 metal or alloy, and a metal or alloy which has a different quality (e.g.
 hardness or thermal-expansion coeff.). Examples of the metals are Pd and
 stainless steel".  (Direct quote from Chem. Abstr. 118:111708 (1993)).}
}

@misc{P.Wata1990b,
 author    = {M. Watanabe and A. Takahashi and K. Sumita},
 title     = {Cold nuclear fusion apparatus},
 year      = {1990},
 note      = {Eur. Pat. Appl. EP 0 394 980, 31-Oct-90.},
 annote    = {First, a metal must be used that can absorb deuterium to high
 concentrations; then, the deuterium's harmonic oscillation energy in the
metal
 must be raised, preferably "by discharge of deuterium gas, optical
irradiation
 or supersonic energy". In another embodiment, a pair of parallel metal
plates
 are subjected to pulsed voltages to induce gas charge and discharge, so as
to
 enhance cold fusion.}
}

@misc{P.Wata1992,
 author    = {M. Watanabe and A. Takahashi and T. Iida},
 title     = {Apparatus for cold nuclear fusion},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 05,203,775, 24-Jan-92.},
 annote    = {"In the app., in which an anode and a cathode from an
 H-adsorbing [sic] metal are immersed in a D2O-contg. electrolyte, and
nuclear
 fusion is caused by current flow, the anode consists of >=2 parallel plates
 with a const.  interval between them, and thin cathode plates are plated
 [sic] in between.  In carrying out nuclear fusion by the app., D is expelled
 from the cathode during electrolysis". (Direct quote from Chem. Abstr.
 120:202689 (1994)).}
}

@misc{P.Wies1989,
 author    = {K. Wiesener and D. Seeliger and D. Ohms and D. Rahner
              and A. Meister and R. Schwierz and P. Wuestner},
 title     = {Arrangement for cold fusion in electrochemical cell},
 year      = {1989},
 note      = {Ger. (East) DD 293,148, 12-May-89.},
 annote    = {"The title arrangement comprises a D-contg. electrochem. fusion
 cell and a D-O-fuel cell. The evolved gases from the fusion cell are fed
into
 the fuel cell where D and O recombine to form D2O. The thus produced D2O is
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 fed back to the fusion cell so that there is no loss of D2O during
 electrolytic fusion of D". (Direct quote from Chem. Abstr. 116:70225
 (1991)).}
}

@misc{P.Yabu1992,
 author    = {R. Yabuno and T. Terasawa and T. Ooi},
 title     = {Excess heat-generating materials, manuf. of electrodes
              and app. for electrolysis of heavy water, apparatus for
              measuring and utilizing the excess heat},
 year      = {1992},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,207,993, 20-Nov-92.},
 annote    = {"The excess heat-generating material is Pd or a Pd base alloy
 having fine pores within it. The electrode is made of Pd or Pd alloy having
 uniform pores running from the outer surface of the electrode to a finite
 length within it.  When the Pd or Pd alloy is melted to cast it into a
 definite shape, voids are formed and the formed metal is subjected to
plastic
 forming to manuf. the electrode. App. for electrolysis of heavy water
 comprises (1) a vessel contg.  a heavy water electrolyte soln., an anode,
and
 a cathode made from Pd or a Pd alloy having a d. of 11.5-11.9 g/cm$^3$. The
 app. can generate excess heat and serve as an elec. power source to apply
 elec. current to the electrodes. The app. for measuring the excess heat
 contains a heater for calibration, a temp.  sensor inserted in the
 electrolyte soln, and a calculator to calc. the excess heat generated by the
 cathode from the output of the temp. sensor, based on the heat coeff. The
 app. for utilizing the excess heat contains a heat-utilizing app. in the
 cathode. Excess heat which is more than what was input can be generated,
 cracking of the electrodes can be suppressed, and the excess heat can be
 measured accurately". (Direct quote from Chem. Abstr.  121:266209 (1994)).}
}

@misc{P.Yamag1989a,
 author    = {E. Yamaguchi and T. Nishioka},
 title     = {Cold nuclear fusion},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,20,696 19-Jun-89.},
 annote    = {"D ions are generated in vacuum (<= 1E-4 torr), accelerated
 at >= 1 keV, and projected at a fixed target contg. Pd, Ni, Ti, graphite
 and/or B nitride so that nuclear fusion of D is caused at <= 1000 degC. An
 app. for cold nuclear fusion contains means to generate and accelerate D
ions
 and a fixed target". (Direct quote from Chem. Abstr. 115:80700 (1991))}
}

@misc{P.Yamag1989b,
 author    = {E. Yamaguchi and T. Nishioka},
 title     = {Cold nuclear fusion process},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,183,987 14-Dec-89.},
 annote    = {"In the process, pressure gradient is applied across a Pd
 or Ti plate which is covered, on one side, with a thin film (e.g. Au) having
 a small D-atom diffusion coeff., so that D pressure on films becomes greater
 than the other, accumulating D atoms at the interface of the plate and the
 film." (Direct quote from Chem. Abstr. 115:289487 (1991)).}
}
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@misc{P.Yamag1989c,
 author    = {E. Yamaguchi and T. Nishioka},
 title     = {Cold nuclear fusion process},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03,183,988, 14-Dec-89.},
 annote    = {"The process includes: (1) placing in a container a D-adsorbed
 [sic] Pd or Ti plate, which is covered on 1 side, with a 1st film (e.g. Si
 oxide) having a small D-atom diffusion coeff., and on the other side, with a
 2nd film (e.g.  Au), having a large D-atom diffusion coeff., and (2)
 decreasing the pressure inside the container to increase D concn. at the
 interface of the plate and the 1st film". (Direct quote from Chem. Abstr.
 115:265199 (1991)).}
}

@misc{P.Yamaz1990a,
 author    = {S. Yamazaki},
 title     = {Electrochemical nuclear fusion method},
 year      = {1990},
 note      = {Euro. Pat. Appl. EP 0 392 324, 3-Apr-1990.},
 annote    = {Yamazaki (working for the Semiconductor Energy Laboratory Co.,
 Japan) starts by summarising what is wrong with the way Jones+(89) carry out
 electrolytic cold fusion. The use of atmospheric pressure reduces the
 probability of cold fusion; the reaction tends to occur at a localised
 section of the electrode from the rise in temperature at that point;
 poisoning of the cathode leads to side reactions and product decomposition,
 and the deuterium ends up in the atmosphere, so the amount used for fusion
is
 small; says Y.  The invention describes a pressurised cell, with the evolved
 gases (which are kept separate) providing the pressure. A heat exchanger
 removes the excess heat, thus keeping the cell temperature down. The cathode
 is either Pd or Ti, the electrolyte being a mixture not unlike that of
 Jones+(89). Neutrons are measured by a detector; nuclear fusion "is
obviously
 accelerated when the reaction at the cathode is implemented under high
 pressure". Up to 200 atm can be used. The neutrons released can cause
 subsequent nuclear fusion by breeding, so there is some danger of an atomic
 explosion, which can be prevented by controlling the extent of electrolysis.
 This is done by pulsing the current, to a level not exceeding the critical
 nuclear fusion value.  Two example experiments showed that the neutron flux
 is proportional to the pressure, and can be controlled by the duty ratio of
 the pulsed current.  Excess heat was also observed.}
}

@misc{P.Yamaz1990b,
 author    = {S. Yamazaki},
 title     = {Electrochemical nuclear fusion method},
 year      = {1990},
 note      = {Euro. Pat. Appl. EP 0 392 325, 3-Apr-1990.},
 annote    = {This appears to be the same as EP 0 392 324, but phrased a
 little more formally. Note that Chem. Abstr. has this under the name
Shunpei,
 Yamazaki; this is probably because the inventor's name is given as "Shunpei
 Yamazaki" here, as opposed to "Yamazaki, Shunpei" in the other patent
 application.}
}
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@misc{P.Yamaz1990c,
 author    = {S. Yamazaki and A. Miyanaga and K. Wakaizumi and Y. Takemura},
 title     = {Plasma nuclear fusion method},
 year      = {1990},
 note      = {Eur. Pat. Appl. 0 393 461, 09.04.90},
 annote    = {This patent sets out to solve several problems with
 "conventional" cold fusion apparati and thereby give us reliable cold
 fusion. These problems are: a) the use of "solusion", allowing little chance
 for cold fusion; b) creation of deuterons in the same place as that in which
 they are to fuse; c) poisoning of the Pd, leading to no more deuteride; d)
 much deuterium is wasted as D2 gas and not used for fusion.  The invention
 produces a dense plasma (10-1000 times as dense as plasma formed by high
 frequency fields) from gaseous D2, and then accelerates the deuterons
towards
 the Pd target by means of a voltage field. The plasma is generated by
 resonance of microwave and magnetism. The gas is >= 98\% pure D2 plus a
 little H2 and He. There are further details of heat exchange for the heat
 produced, prevention of overheating of the magnets etc.}
}

@misc{P.Yamaz1990d,
 author    = {S. Yamazaki},
 title     = {Electrode for nuclear fusion and method for using the same},
 year      = {1990},
 note      = {Eur. Pat. Appl. 0 393 463, 09.04.90},
 annote    = {This patent, as the previous patent of the same inventor (with
 others) tries to provide reliable cold fusion. Here, instead of microwave
 resonance with magnetism, a high frequency electric field ("500 KHz to 500
 MHz, for example 13.56 MHz") produces the plasma, again beaming it at the Pd
 (or Ti) target.}
}

@misc{P.Yamaz1990e,
 author    = {S. Yamazaki and A. Miyanaga and Y. Takemura},
 title     = {Apparatus for plasma nuclear fusion},
 year      = {1990},
 note      = {Eur. Pat. Appl. 0 393 464, 09.04.90.},
 annote    = {This patent appears to this abstractor to concern the same
 invention as Pat. Appl. 0 393 461 of the same day, same inventors (+ one),
 but with a more detailed and more carefully expressed description.}
}

@misc{P.Yamaz1990f,
 author    = {S. Yamazaki and A. Miyanaga and Y. Takemura},
 title     = {Method for producing plasma nuclear fusion},
 year      = {1990},
 note      = {Eur. Pat. Appl. 0 393 465, 09.04.90},
 annote    = {This patent appears to this abstractor to concern the same
 invention as Pat. Appl. 0 393 463 of the same day, same inventors (-2), but
 with a more detailed and more carefully expressed description.}
}

@misc{P.Yana1989,
 author    = {N. Yanagihara and S. Noya},
 title     = {Heating by heavy water electrolysis and apparatus therefor},
 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 35,194 30-Jun-89.},
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 annote    = {"The app. comprises: (A) a cathode from a metal or alloy which
 absorbs D; (B) an anode from alk.-resistive metal; (C) a porous separator
 placed between (A) and (B); (D) an electrolysis cell contg. (A)-(C) in D2O
 contg. an electrolyte; (E) a heat-exchanger for extg. the heat of D
 absorption and that of cold fusions generated in (A); and a flow loop for
 circulating the electrolyte sol. between the (A) subcell and (E)". (Direct
 quote from Chem.  Abstr. 117:15847 (1992)).}
}

@misc{P.Ying1992,
 author    = {N.~L.~L. Ying and C.~W. {Schults III}},
 title     = {Energy production from the control of probabilities through
              quantum level induced interactions},
 year      = {1992},
 note      = {Eur. Pat. Appl. EP 576,293, 26-Jun-92},
 annote    = {"A cold fusion reaction is initiated on demand in a cell contg.
 D2O in which electrolysis occurs between a Pt and a Pd electrode. The Pd
 electrode collects D ions which are then caused to fuse by incident
radiation
 from gamma and alpha radiation sources" (direct quote from Chem. Abstr.
 120:119147 (1993)).}
}

@misc{P.Yone1993a,
 author    = {H. Yonezawa and Y. Ishii},
 title     = {Method and apparatus and method for nuclear fusion of
hydrogen},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,214,068, 18-Jan-93.},
 annote    = {"More than two kinds of metal (1 of which is Pd) having
different
 capacity for absorbing H or its isotopes are laminated, and the H or an
 isotope of H is absorbed by each metal. The sample is heated to transfer the
 H or its isotope to the metal having the higher absorption capacity to
enrich
 it in the metal for nuclear fusion (<= 1000C). The probability of nuclear
 fusion can be improved by this simple procedure". (Direct quote from
 Chem. Abstr.  121:266208 (1994)).}
}

@misc{P.Yone1993b,
 author    = {H. Yonezawa and K. Kano and T. Shigematsu and E. Yamaguchi},
 title     = {Apparatus and method for verification of nuclear fusion
              of hydrogen at < 1000C},
 year      = {1993},
 note      = {Jpn. Kokai Tokkyo Koho JP 06,214,069, 20-Jan-93.},
 annote    = {"In the app. comprising a vacuum chamber, a D-satd. metal
 sample, and a heater to heat the sample, the periphery of the vacuum chamber
 is shielded with a metal, >=1 window for transmitting gamma-rays in the
 vacuum chamber, and >=1 gamma-ray detector in the outside vicinity of the
 windows. The occurrence of nuclear fusion can be detected effectively and
 easily". (Direct quote from Chem. Abstr. 121:266207 (1994)).}
}

@misc{P.Yosh1989,
 author    = {S. Yoshimura},
 title     = {Energy converters based on electrochemical nuclear fusion},
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 year      = {1989},
 note      = {Jpn. Kokai Tokkyo Koho JP 03 82991, 25-Aug-89.},
 annote    = {"The app. contains an electrolytic cell comprising a cathode
 from an alkali-metal-doped pi-electron-type compd., a noble-metal anode,
 heavy H2O, and an electrolyte contg. a support material, where the cathode
 and anode are immersed in the electrolyte". (Direct quote from Chem. Abstr.
 115:242241 (1991)).}
}

@misc{P.Yosh2003,
 author    = {N. Yoshino},
 title     = {Cold cathode discharge tube},
 year      = {2003},
 note      = {Jpn. Kokai Tokkyo Koho  (2003),  JP  2003187739.},
 annote    = {"[Machine Translation of Descriptors]. Like the back light
 illuminant of liquid crystal display when long time, it makes light up, when
 cathode the whole cold with discharge becomes the homogeneous high
 temperature state, it reaches the point where it occurs on the side of the
 cold cathode which is vertical place other than the surface where arc spot
is
 opposed the cold cathode, vis-a-vis the surface which for example is
opposed.
 Then as for purpose of this invention, being long-lived, there are times
when
 it offers the cold cathode discharge tube which radiation operation
 stabilizes.  Being the discharge tube which possesses the cold cathode in
the
 point of the lead-in wire which the seal equipment is done in the end of the
 glass tube which encloses the inert gas and the mercury, titanium the point
 of the lead-in wire does not expose the cold cathode which consists of the
 high fusion point metal, the sea urchin it installs when it is covered,
 furthermore forms the acute section desirably on the surface of discharge
 space side of the cold cathode." (Direct quote from Chem. Abstr.
139:59438).}
}

@misc{P.Yuha1995,
 author    = {T. Yuhara and H. Futami},
 title     = {Method for identifying nuclides that can be produced in
              cold nuclear fusion},
 year      = {1995},
 note      = {Jpn. Kokai Tokkyo Koho JP 09 15,210, Jun-95.},
 annote    = {"To make it easy to discriminate chem. species whose mass nos.
 are very close, chem. species contg. the nuclide to be identified is
 irradiated with a characteristic wavelength of light for selective
 ionization, thereby the nuclide thus produced is identified. The ionized
 species is then further processed for identification". (Direct quote from
 Chem. Abstr. 126:192094 (1997)).}
}
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