

Title (en)

DEVICE FOR PRODUCING NEUTRONS, IN PARTICULAR FOR A SUBCRITICAL NUCLEAR REACTOR, AND NUCLEAR REACTOR
FEATURING SUCH A DEVICE

Title (de)

VORRICHTUNG ZUR ERZEUGUNG VON NEUTRONEN, INSBESONDERE FÜR EINEN UNTERKRITISCHEN KERNREAKTOR UND
KERNREAKTOR MIT EINER SOLCHEN VORRICHTUNG

Title (fr)

DISPOSITIF POUR PRODUIRE DES NEUTRONS, EN PARTICULIER DANS UN REACTEUR NUCLEAIRE SOUS-CRITIQUE, ET REACTEUR
NUCLEAIRE COMPRENANT CE DISPOSITIF

Publication

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Application

EP 99921140 A 19990512

Priority

- IT 9900131 W 19990512
- IT TO980399 A 19980512

Abstract (en)

[origin: WO9959158A1] Inside a vessel (2) of a nuclear reactor (1, 1a), e.g. a subcritical liquid-metal reactor, a hydraulic circuit (22) is defined to circulate a coolant (5) between a core (10) and a heat exchanger (21); the nuclear reactor (1, 1a) also features a device (33, 33a) for producing neutrons by interaction of a beam of high-energy particles (37) with an operating fluid (35) defined by a heavy-nucleus material; the device (33, 33a) has a supply conduit (36) in which a vacuum is substantially maintained, which directs the beam of high-energy particles (37) onto the operating fluid (35) inside the core (10) of the reactor (1, 1a), and which is separated from the operating fluid (35) by an interface (41, 93); the device (33, 33a) also has containing means (34) for containing the operating fluid (35) and defining a closed fluid dynamic circuit (43) in no way communicating hydraulically with the hydraulic circuit (22) of the coolant (5); carrier-gas circulating means (25) for keeping the operating fluid (35) moving in the closed fluid dynamic circuit (43); and heat-exchange means (49, 77) for withdrawing heat from the operating fluid (35).

IPC 1-7

G21C 1/30; G21C 7/34

IPC 8 full level

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CPC (source: EP)

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