

Title (en)

Method and apparatus for induced nuclear beta decay.

Title (de)

Verfahren und Einrichtung zum Bewirken des nuklearen Beta-Zerfalls.

Title (fr)

Procédé et appareil pour provoquer la décroissance nucléaire bêta.

Publication

**EP 0099946 A1 19840208 (EN)**

Application

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Priority

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Abstract (en)

Certain nuclear beta decay transitions, normally inhibited by angular momentum or parity considerations can be induced to occur by the application of an electromagnetic field. The energy released by these induced nuclear transitions is useful for the controlled production of power. These induced beta decay transitions are also useful to reduce the half-lives of long-lived fission product wastes from nuclear fission power plants. Theoretical results are given for induced beta decay half-lives as a function of the intensity of the applied field. The nuclides that can be treated in this way are all those found in Nature which are potentially useful energy sources, as well as  $^{90}\text{Sr}$  and  $^{137}\text{Cs}$  - the most radioactive of fission wastes. It is shown that electromagnetic fields of the type and intensity required to achieve useful power production and/or fission waste disposal can be produced in a practical way.

IPC 1-7

**G21G 1/12**

IPC 8 full level

**G21G 1/10** (2006.01)

CPC (source: EP)

**G21G 1/10** (2013.01)

Citation (search report)

- [A] GB 802971 A 19581015 - LOUIS VERSCHRAEGHEN
- [A] GB 1147585 A 19690402 - ATOMIC ENERGY COMMISSION [US]
- [A] DE 2249429 A1 19740418 - KERNFORSCHUNG GMBH GES FUER
- [A] NUCLEAR INSTRUMENTS AND METHODS, vol. 141, no. 3, 15th March 1977, pages 429-432, North-Holland Publishing Co.;

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