

**CPC****COOPERATIVE PATENT CLASSIFICATION****G21H**

**OBTAINING ENERGY FROM RADIOACTIVE SOURCES;  
APPLICATIONS OF RADIATION FROM RADIOACTIVE SOURCES;  
UTILISING COSMIC RADIATION** (measurement of nuclear or X-radiation [G01T](#);  
fusion reactors [G21B](#); nuclear reactors [G21C](#); semiconductor devices sensitive to  
electro-magnetic or corpuscular radiation [H01L 31/00](#))

**G21H 1/00**

**Arrangements for obtaining electrical energy from radioactive sources, e.g. from radioactive isotopes, { nuclear or atomic batteries}**

## G21H 1/02

- Cells charged directly by beta radiation

## G21H 1/04

- Cells using secondary emission induced by alpha radiation, beta radiation, or gamma radiation (discharge tubes [H01J 40/00](#))

## G21H 1/06

- Cells wherein radiation is applied to the junction of different semiconductor materials

## G21H 1/08

- Cells in which radiation ionises a gas in the presence of a junction of two dissimilar metals, i.e. contact potential difference cells (discharge tubes [H01J](#))

## G21H 1/10

- Cells in which radiation {of disintegration heat} heats a thermoelectric junction or a thermionic converter (discharge tubes functioning as thermionic generators [H01J 45/00](#); thermo electric devices comprising a junction of dissimilar materials [H01L 35/00](#)){Devices where heating occurs from fission reactions [G21C 3/04](#)}

## G21H 1/103

- .. {Cells provided with thermo-electric generators}

## G21H 1/106

- .. {Cells provided with thermionic generators}

## G21H 1/12

- Cells using conversion of the radiation into light combined with subsequent photoelectric conversion into electric energy

**G21H 3/00**

**Arrangements for direct conversion of radiation energy from radioactive sources into forms of energy other than electric energy, e.g. { into} light { or mechanic energy}(lasers [H01S 3/00](#); { gamma masers [H01S 4/00](#)})**

## G21H 3/02

- in which material is excited to luminesce by the radiation ({ luminescent substances containing radioactive material [C09C 1/00](#)}; lamps in which a gas filling or screen or coating is excited to luminesce by radioactive material structurally associated with the lamp [H01J 65/00](#))

**G21H 5/00**

**Applications of radiation from radioactive sources or arrangements therefor** (producing mutation in plants [A01H 1/06](#); preservation of dairy products [A23C](#); preservation of foodstuffs [A23L 3/26](#); for therapeutic purposes [A61N 5/10](#); in chemical, physical or physicochemical processes in general [B01J 19/08](#); in electrostatic separation [B03C 3/38](#); for after-treatment of coatings applied as liquids or other fluent materials [B05D 3/06](#); for action between electric vehicles and tracked apparatus [B61L 1/10](#), [B61L 3/06](#); introducing isotopes into organic compounds [C07B 59/00](#); for preparation of organic chemical compounds [C07](#), [C08](#), e.g. [C08F 2/46](#); for treating macromolecular

substances or articles made therefrom [B29C 71/04](#), [C08J 3/28](#), [C08J 7/18](#); for cracking of hydrocarbon oils [C10G 15/00](#), [C10G 32/04](#); for reforming naphtha [C10G 35/16](#); preservation or ageing of products obtained from fermentation processes [C12H 1/06](#), [C12H 1/16](#); for bleaching fibres [D06L 3/04](#); measuring G01; irradiation devices, gamma- or X-ray microscopes G21K; in discharge tubes H01J; apparatus for generating ions to be introduced into non-enclosed gases, e.g. into the atmosphere, [H01T 23/00](#); for carrying-off electrostatic charges [H05F 3/06](#))

G21H 5/02

- as tracers {(medicinal preparations containing radioactive substances [A61K 43/00](#); investigating or analysing biological material [G01N 33/48](#))}

G21H 7/00

**Use of effects of cosmic radiation**