

**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](#))

**Guidance heading:****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**