

Search Strategy: Energy and its Storage

Database searched

Search conducted on 4 April 2014 using Thomson Innovation.

Major CPC subgroups searched

Smart Grids

Y02E 40/70*

Systems Intergrating technologies related to power network operation and communication technologies for improving the carbon footprint of electrical power generation, transmission or distribution, i.e. smart grids as climate change mitigation technology in the energy generation sector.

Small Modular Nuclear Reactors

G21C 15*#

Cooling arrangements within the pressure vessel containing the core; selection of specific coolants

G21C 9*#

Emergency protection arrangements structurally associated with the reactor

G21C 1*#

Reactors

G21C 3*#

Reactor fuel elements and their assemblies; selection of substances for use as reactor fuel elements

Energy Storage for Vehicles

B60L 11/1851*

Battery monitoring or controlling; Arrangements of batteries, structures or switching circuits therefore

B60L 11/1881*

Fuel cells monitoring or controlling; arrangements of fuel cells, structures or switching circuits thereof

Y02T*

Climate change mitigation technologies related to transportation

Fuel Cells

Y02E 60/122

Battery technology > Lithium-ion batteries

Y02E 60/50*

Fuel Cells

H01M 6*

Primary cells, manufacture thereof

H01M 8*

Fuel cells, manufacture thereof

H01M 10*

Secondary Cells, manufacture thereof

Super Capacitors

Y02E 60/13	Ultracapacitors, supercapacitors, double-layer capacitors
H01G 11*#	Hybrid capacitors, i.e. capacitors having different positive and negative electrodes; Electric double-layer

* Subsidiary subgroups also included

Combined with selected keywords

Search undertaken using CPC version 2014.02

Major IPC subgroups searched

Smart Grids

H02J 7/34#	Circuit arrangements for charging or depolarising batteries or supplying loads from batteries > Parallel operation in networks using both storage and other dc sources, e.g. providing buffering
H02J 7/35#	Circuit arrangements for charging or depolarising batteries or supplying loads from batteries > Parallel operation in networks using both storage and other dc sources, e.g. providing buffering > with light sensitive cells
H02J 3/38#	Circuit arrangements for ac mains or ac distribution networks > Arrangements for parallely feeding a single network by two or more generators, converters or transformers
H02J 3/40#	Circuit arrangements for ac mains or ac distribution networks > Arrangements for parallely feeding a single network by two or more generators, converters or transformers > Synchronising a generator for connection to a network or another generator
H02J 3/44#	Circuit arrangements for ac mains or ac distribution networks > Arrangements for parallely feeding a single network by two or more generators, converters or transformers > Synchronising a generator for connection to a network or another generator > with means for ensuring correct phase sequence
H04B 3/54#	Systems for transmission via power distribution lines
<u>Small Modular Nuclear Reactors</u>	
G21C 1*#	Reactors
G21D 1*#	Details of Nuclear Power Plant
G21D 3*#	Control of Nuclear Power Plant

Energy Storage for Vehicles

B60L 11/18 Electric propulsion with power supplied within the vehicle
> using power supplied from primary cells, secondary cells or fuel cells

Fuel Cells

H01M 6*# Primary Cells; Manufacture thereof

H01M 8*# Fuel Cells; Manufacture thereof

H01M 10*# Secondary Cells; Manufacture thereof

Super Capacitors

H01G 11*# Hybrid capacitors, i.e. capacitors having different positive and negative electrodes; Electric double-layer [EDL] capacitors; Processes for the manufacture thereof or of parts thereof

* Subsidiary subgroups also included

Combined with selected keywords

Search undertaken using IPC version 2014.01

Example words searched

Smart Grids

Smart, Grid, Application, meter

Small Modular Nuclear Reactors

SMR, Small, Modular, Reactor, pressurised, PHWR

Energy Storage for vehicles

No keywords used

Fuel Cells

Nano, Graphene, SWNT, flow, batter, aquion, Li, air

Super Capacitors

Super, Ultra, Electrochemical, Capacitor, EC

Date limitations applied

Publication years 2004-2013 inclusive.

Notes

Classification schemes change regularly. The terms listed above were correct at the time of searching.

A limited selection of example keywords is listed above but other relevant synonyms were also used. The actual search performed has taken account of differences in wording, for example due to the use of plural form or American/British spellings.

Additional manual cleaning of the extracted data was performed as appropriate.