

CPC**COOPERATIVE PATENT CLASSIFICATION****G01V**

GEOFYSICS; GRAVITATIONAL MEASUREMENTS; DETECTING MASSES OR OBJECTS (detecting or locating foreign bodies for diagnostic, surgical or person-identification purposes [A61B](#); means for indicating the location of accidentally buried, e.g. snow-buried persons [A63B 29/02](#) ; investigating or analysing earth materials by determining their chemical or physical properties [G01N](#); measuring electric or magnetic variables in general, other than direction or magnitude of the earth's field [G01R](#); electronic or nuclear magnetic resonance arrangements [G01R 33/20](#) ; radar, sonar or analogous methods in general, detecting masses or objects involving these methods [G01S](#))

NOTE

In this subclass, the geophysical methods apply both to the earth and to other celestial objects, e.g. planets.

Attention is drawn to the Notes following the title of class [G01](#).

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

[G01V 3/11](#) covered by [G01V 3/10](#) B, [G01V 3/10](#) C

G01V 1/00**Seismology; Seismic or acoustic prospecting or detecting****NOTE**

Groups [G01V 1/44](#) to [G01V 1/52](#) take precedence over groups [G01V 1/001](#) to [G01V 1/393](#)[G01V 1/42](#)

WARNING

Group [G01V 1/159](#) does not correspond to former or current IPC groups.
Concordance ECLA:IPC for this group is as follows: - [G01V 1/159](#) : [G01V 1/02](#)

- [G01V 1/001](#) . { Acoustic presence detection (measurement of sonic vibrations [G01H](#); alarm systems [G08B](#)) }
- [G01V 1/003](#) . { Seismic data acquisition in general, e.g. survey design ([G01V 1/3808](#) , [G01V 1/42](#) takes precedence) }
- [G01V 1/005](#) . . { with exploration systems emitting special signals, e.g. frequency swept signals, pulse sequences or slip sweep arrangements }
- [G01V 1/006](#) . . { generating single signals by using more than one generator, e.g. beam steering or focussing arrays ([G01V 1/13](#) , [G01V 1/3861](#) takes precedence) }
- [G01V 1/008](#) . { Earthquake measurement or prediction (event detection for microseismic events [G01V 1/288](#)) }
- [G01V 1/02](#) . Generating seismic energy ({ [G01V 1/003](#) takes precedence } ; blasting in general

F42; nuclear explosives G21J)

- G01V 1/04 .. Details
- G01V 1/047 ... Arrangements for coupling the generator to the ground
- G01V 1/0475 { for controlling "Ground Force" }
- G01V 1/053 for generating transverse waves
- G01V 1/06 ... Ignition devices ([G01V 1/393 takes precedence](#))
- G01V 1/08 involving time-delay devices
- G01V 1/09 ... Transporting arrangements, e.g. on vehicles ([G01V 1/38 takes precedence](#))
- G01V 1/104 .. using explosive charges ([G01V 1/157 takes precedence](#))
- G01V 1/108 ... by deforming or displacing surfaces of enclosures
- G01V 1/112 for use on the surface of the earth
- G01V 1/116 ... where pressurised combustion gases escape from the generator in a pulsating manner, e.g. for generating bursts
- G01V 1/13 ... Arrangements or disposition of charges to produce a desired pattern in space or time
- G01V 1/133 .. using fluidic driving means, e.g. highly pressurised fluids; { using implosion } ([G01V 1/104 takes precedence](#))
- G01V 1/135 ... by deforming or displacing surfaces of enclosures { , e.g. by hydraulically driven vibroseis™ }
- G01V 1/137 ... which fluid escapes from the generator in a pulsating manner, e.g. for generating bursts { , airguns }
- G01V 1/143 .. using mechanical driving means { e.g. motor driven shaft } ([G01V 1/104](#) , [G01V 1/133 take precedence](#))
- G01V 1/145 ... by deforming or displacing surfaces { , e.g. by mechanically driven vibroseis™ }
- G01V 1/147 ... using impact of dropping masses
- G01V 1/153 ... using rotary unbalanced masses
- G01V 1/155 ... using reciprocating masses
- G01V 1/157 .. using spark discharges; using exploding wires (spark gaps, { non-enclosed } discharge apparatus, not otherwise provided for [H01T](#))
- G01V 1/159 .. { using piezoelectric or magnetostrictive driving means (generating mechanical vibrations by using piezoelectric or magnetostrictive effect in general, [B06B 1/06](#) , [B06B 1/08](#)) }
- G01V 1/16 . Receiving elements for seismic signals ([electromechanical transducers H04R](#)); Arrangements or adaptations of receiving elements
- G01V 1/162 .. { Details }
- G01V 1/164 ... { Circuits therefore }
- G01V 1/166 ... { Arrangements for coupling receivers to the ground }
- G01V 1/168 .. { Deployment of receiver elements ([G01V 1/3843 takes precedence](#)) }
- G01V 1/18 .. Receiving elements, e.g. seismometer, geophone { or torque detectors, for localised single point measurements }
- G01V 1/181 ... { Geophones }
- G01V 1/182 { with moving coil }
- G01V 1/183 { with moving magnet }
- G01V 1/184 { Multi-component geophones }

- G01V 1/185 { with adaptable orientation, e.g. gimballed }
- G01V 1/186 . . . { Hydrophones }
- G01V 1/187 { Direction-sensitive hydrophones }
- G01V 1/188 { with pressure compensating means }
- G01V 1/189 . . . { Combinations of different types of receiving elements }
- G01V 1/20 . . Arrangements of receiving elements, e.g. geophone pattern
- G01V 1/201 . . . { Constructional details of seismic cables, e.g. streamers (integrated optoseismic systems [G01V 1/226](#) ; line connectors in general [H01R](#), transducer mountings in general [G10K 11/004](#)) }
- G01V 1/202 { Connectors, e.g. for force, signal or power }
- G01V 1/208 { having a continuous structure (detecting traffic [G08G](#), transducers in general [G10K](#)) }

- G01V 1/22 . . Transmitting seismic signals to recording or processing apparatus (signal transmitting systems in general [G08C](#); transmission systems in general [H04B](#))
- G01V 1/223 . . { Radioseismic systems }
- G01V 1/226 . . { Optoseismic systems }

- G01V 1/24 . . Recording seismic data (transforming one recording into another [G01V 1/32](#) ; recording measured values in general [G01D](#))
- G01V 1/242 . . { Seismographs }
- G01V 1/245 . . { Amplitude control for seismic recording (control of amplification in general [H03G](#)) }
- G01V 1/247 . . { Digital recording of seismic data, e.g. in acquisition units or nodes }
- G01V 1/26 . . Reference-signal-transmitting devices, e.g. indicating moment of firing of shot

- G01V 1/28 . . Processing seismic data, e.g. analysis, for interpretation, for correction ([G01V 1/48](#) takes precedence)
- G01V 1/282 . . { Application of seismic models, synthetic seismograms }
- G01V 1/284 . . { Application of the shear wave component and/or several components of the seismic signal }
- G01V 1/286 . . . { Mode conversion }
- G01V 1/288 . . { Event detection in seismic signals, e.g. microseismics } (earthquakes [G01V 1/008](#) ; [G01V 1/36](#) takes precedence)
- G01V 1/30 . . Analysis ([G01V 1/50](#) takes precedence)
- G01V 1/301 . . . { for determining seismic cross-sections or geostructures }
- G01V 1/302 { in 3D data cubes }
- G01V 1/303 . . . { for determining velocity profiles or travel times }
- G01V 1/305 { Travel times }
- G01V 1/306 . . . { for determining physical properties of the subsurface, e.g. impedance, porosity or attenuation profiles }
- G01V 1/307 . . . { for determining seismic attributes, e.g. amplitude, instantaneous phase or frequency, reflection strength or polarity }
- G01V 1/308 . . . { Time lapse or 4D effects, e.g. production related effects to the formation (fluid flow per se [E21B 47/00](#)) }
- G01V 1/32 . . Transforming one recording into another { or one representation into another }
- G01V 1/325 . . . { Transforming one representation into another }

- G01V 1/34 .. Displaying seismic recordings { or visualisation of seismic data or attributes }
- G01V 1/345 ... { Visualisation of seismic data or attributes, e.g. in 3D cubes }
- G01V 1/36 .. Effecting static or dynamic corrections on records, e.g. correcting spread; Correlating seismic signals; Eliminating effects of unwanted energy
- G01V 1/362 ... { Effecting static or dynamic corrections; Stacking }
- G01V 1/364 ... { Seismic filtering ([G01V 1/37](#) takes precedence) }
- G01V 1/366 { by correlation of seismic signals }
- G01V 1/368 { Inverse filtering }
- G01V 1/37 ... specially adapted for seismic systems using continuous agitation of the ground, { e.g. using pulse compression of frequency swept signals for enhancement of received signals }
- G01V 1/375 { Correlating received seismic signals with the emitted source signal }
- G01V 1/38 . specially adapted for water-covered areas ([G01V 1/28](#) , { [G01V 1/42](#) }take precedence)]
- G01V 1/3808 .. { Seismic data acquisition, e.g. survey design (in general [G01V 1/003](#)) }
- G01V 1/3817 .. { Positioning of seismic devices }
- G01V 1/3826 ... { dynamic steering, e.g. by paravanes or birds }
- G01V 1/3835 ... { measuring position, e.g. by GPS or acoustically }
- G01V 1/3843 .. { Deployment of seismic devices, e.g. of streamers (equipment for marine deployment in general [B63B](#)) }
- G01V 1/3852 ... { to the seabed }
- G01V 1/3861 .. { control of source arrays, e.g. for far field control }
- G01V 1/387 .. Reducing secondary bubble pulse, i.e. reducing the detected signals resulting from the generation and release of gas bubbles after the primary explosion
- G01V 1/393 .. Means for loading explosive underwater charges, e.g. combined with ignition devices
- G01V 1/40 . specially adapted for well-logging
- G01V 1/42 .. using generators in one well and receivers elsewhere or vice-versa ([G01V 1/52](#) takes precedence)
- G01V 1/44 .. using generators and receivers in the same well ([G01V 1/52](#) takes precedence)
- G01V 1/46 ... Data acquisition
- G01V 1/48 ... Processing data
- G01V 1/50 Analysing data
- G01V 1/52 .. Structural details
- G01V 1/523 ... { Damping devices }
- G01V 3/00** **Electric or magnetic prospecting or detecting (by optical means [G01V 8/00](#)); Measuring magnetic field characteristics of the earth, e.g. declination, deviation (for navigation, for surveying [G01C](#); { measuring direction or magnitude of magnetic fields or magnetic flux in general [G01R 33/02](#)) }**
- G01V 3/02 . operating with propagation of electric current
- G01V 3/04 .. using dc
- G01V 3/06 .. using ac

- G01V 3/08 . operating with magnetic or electric fields produced or modified by objects or geological structures or by detecting devices (with electromagnetic waves [G01V 3/12](#) ; measuring the magnetic field characteristics of the earth [G01V 3/40](#))
- G01V 3/081 .. { the magnetic field is produced by the objects or geological structures (characterised by the method of magnetic field measurement [G01R 33/00](#)) }
- G01V 3/082 .. { operating with fields produced by spontaneous potentials, e.g. electrochemical or produced by telluric currents ([G01V 3/26](#) takes precedence) }
- G01V 3/083 .. { Controlled source electromagnetic [CSEM] surveying }
- G01V 3/087 .. { the earth magnetic field being modified by the objects or geological structures }
- G01V 3/088 .. { operating with electric fields ([G01V 3/082](#) takes precedence) }
- G01V 3/10 .. using induction coils
- G01V 3/101 ... { by measuring the impedance of the search coil; by measuring features of a resonant circuit comprising the search coil (measuring impedance or characteristics derived therefrom [G01R 27/00](#) , e.g. quality factor [G01R 27/26](#)) }
- G01V 3/102 { by measuring amplitude }
- G01V 3/104 ... { using several coupled or uncoupled coils ([G01V 3/101](#) takes precedence) }
- G01V 3/105 { forming directly coupled primary and secondary coils or loops }
- G01V 3/107 { using compensating coil or loop arrangements }
- G01V 3/108 { the emitter and the receiver coils or loops being uncoupled by positioning them perpendicularly to each other }
- G01V 3/12 . operating with electromagnetic waves {(operating with millimetre waves [G01V 8/005](#)) }
- G01V 3/14 . operating with electron or nuclear magnetic resonance
- G01V 3/15 . specially adapted for use during transport, e.g. by a person, vehicle or boat
- G01V 3/16 .. specially adapted for use from aircraft ([G01V 3/165](#) to [G01V 3/175](#) take precedence)
- G01V 3/165 .. operating with magnetic or electric fields produced or modified by the object or by the detecting device (with electromagnetic waves [G01V 3/17](#))
- G01V 3/17 .. operating with electromagnetic waves {(operating with millimetre waves [G01V 8/005](#)) }
- G01V 3/175 .. operating with electron or nuclear magnetic resonance
- G01V 3/18 . specially adapted for well-logging
- G01V 3/20 .. operating with propagation of electric current
- G01V 3/22 ... using dc
- G01V 3/24 ... using ac
- G01V 3/26 .. operating with magnetic or electric fields produced or modified either by the surrounding earth formation or by the detecting device (with electromagnetic waves [G01V 3/30](#))
- G01V 3/265 ... { Operating with fields produced by spontaneous potentials, e.g. electrochemicals or produced by telluric currents }
- G01V 3/28 ... using induction coils
- G01V 3/30 .. operating with electromagnetic waves
- G01V 3/32 .. operating with electron or nuclear magnetic resonance

- G01V 3/34 . . Transmitting data to recording or processing apparatus; Recording data
- G01V 3/36 . Recording data ([G01V 3/34](#) takes precedence)
- G01V 3/38 . Processing data, e.g. for analysis, for interpretation, for correction ([computing in general G06](#))
- G01V 3/40 . specially adapted for measuring magnetic field characteristics of the earth
- G01V 5/00** **Prospecting or detecting by the use of nuclear radiation, e.g. of natural or induced radioactivity** ([determining the properties of materials G01N](#); [measuring nuclear radiation G01T](#))
 - WARNING**

Pending reclassification, the subgroups of this group are not complete; see also this group
 - G01V 5/0008 . { [Detecting hidden objects, e.g. weapons, explosives \(sorting of materials or articles according to radioactive properties B07C 5/342 ; investigating or analysing materials by the use of wave or particle radiation G01N 23/00 \)](#) }
 - G01V 5/0016 . . { [Active interrogation, i.e. using an external radiation source, e.g. using pulsed, continuous or cosmic rays](#) }
 - G01V 5/0025 . . . { [Measuring scattered radiation](#) }
 - G01V 5/0033 . . . { [Mixed interrogation beams, e.g. using more than one type of radiation beam](#) }
 - G01V 5/0041 . . . { [Multiple energy techniques using one type of radiation, e.g. X-rays of different energies \(multi-beam applications, e.g. X-rays and neutrons G01V 5/0033 ; spectroscopic applications G01V 5/0016 \)](#) }
 - G01V 5/005 . . . { [using Tomography, e.g. CT or SPECT \(detector details in CT applications G01T 1/2985 \)](#) }
 - G01V 5/0058 . . . { [using stereoscopic means](#) }
 - G01V 5/0066 . . . { [having relative motion between the source, detector and object other than by conveyor \(G01V 5/005 takes precedence \)](#) }
 - G01V 5/0075 . . { [Passive interrogation \(for hand, feet or portals G01T 1/167 ; for contaminated surface areas G01T 1/169 \)](#) }
 - G01V 5/0083 . . { [utilizing a network, e.g. a remote expert, accessing remote data or the like](#) }
 - G01V 5/0091 . . { [detecting special nuclear material \[SNM\], e.g. Uranium-235, Uranium-233 or Plutonium-239](#) }
 - G01V 5/02 . specially adapted for surface logging, e.g. from aircraft
 - G01V 5/025 . . { [specially adapted for use from aircraft](#) }
 - G01V 5/04 . specially adapted for well-logging
 - G01V 5/045 . . { [Transmitting data to recording or processing apparatus; Recording data](#) }
 - G01V 5/06 . . for detecting naturally radioactive minerals
 - G01V 5/08 . . using primary nuclear radiation sources or X-rays { [e.g. for inducing radioactivity; investigating or analysing materials by the use of wave or particle radiation, e.g. X-rays, neutrons G01N 23/00](#) }
 - G01V 5/085 . . . { [using another radioactive source](#) }

- G01V 5/10 . . . using neutron sources { neutron generating tubes [H05H 5/00](#) ; neutron sources using isotopes [G21G 4/00](#) }
- G01V 5/101 { and detecting the secondary Y-rays produced in the surrounding layers of the bore hole }
- G01V 5/102 { the neutron source being of the pulsed type }
- G01V 5/104 { and detecting secondary Y-rays as well as reflected or back-scattered neutrons }
- G01V 5/105 { the neutron source being of the pulsed type }
- G01V 5/107 { and detecting reflected or back-scattered neutrons }
- G01V 5/108 { the neutron source being of the pulsed type }
- G01V 5/12 . . . using gamma or X-ray sources { gamma sources using isotopes [G21G 4/00](#) ; X-ray tubes [H01J 35/00](#) }
- G01V 5/125 { and detecting the secondary gamma- or X-rays in different places along the bore hole }
- G01V 5/14 . . . using a combination of several sources, e.g. a neutron and a gamma source
- G01V 5/145 { using a neutron source combined with a gamma- or X-ray source }

G01V 7/00 Measuring gravitational fields or waves; Gravimetric prospecting or detecting

- G01V 7/005 . { using a resonating body or device, e.g. string ([G01V 7/08](#) to [G01V 7/12](#) take precedence; measuring resonant frequency of mechanical vibrations [G01H 13/00](#) ; measuring frequency per se [G01R 23/00](#)) }
- G01V 7/02 . Details
- G01V 7/04 . . Electric, photoelectric, or magnetic indicating or recording means
- G01V 7/06 . . Analysis or interpretation of gravimetric records
- G01V 7/08 . using balances ([balances in general G01G](#))
- G01V 7/10 . . using torsion balances, e.g. Eötvös balance
- G01V 7/12 . using pendulums
- G01V 7/14 . using free-fall time
- G01V 7/16 . specially adapted for use on moving platforms, e.g. ship, aircraft

G01V 8/00 Prospecting or detecting by optical means (measurement of characteristics of light [G01J](#) ; optical scanning systems [G02B 26/10](#) ; discharge tubes detecting the presence of radiation [H01J 40/00](#) , [H01J 47/00](#) ; semiconductor devices sensitive to light [H01L 31/00](#))

NOTE

This group covers the use of { millimetre waves, } infra-red, visible or ultra-violet light.

- G01V 8/005 . { operating with millimetre waves, e.g. measuring the black body radiation }
- G01V 8/02 . Prospecting

- G01V 8/10 . Detecting, e.g. by using light barriers (by reflection from the object [G01S 17/00](#) ; counting of objects carried by a conveyer [G06M 7/00](#) ; signalling or calling arrangements [G08B](#) ; detecting movement of traffic to be counted or controlled [G08G 1/01](#) ; proximity switches [H03K 17/945](#) , [H03K 17/965](#))
- G01V 8/12 . . using one transmitter and one receiver
- G01V 8/14 . . . using reflectors
- G01V 8/16 . . . using optical fibres
- G01V 8/18 . . . using mechanical scanning systems
- G01V 8/20 . . using multiple transmitters or receivers
- G01V 8/22 . . . using reflectors
- G01V 8/24 . . . using optical fibres
- G01V 8/26 . . . using mechanical scanning systems

- G01V 9/00** **Prospecting or detecting by methods not provided for in groups [G01V 1/00](#) to [G01V 8/00](#)**
- G01V 9/002 . { using fields or radiation detectable only by persons susceptible therefor, e.g. radio-esthesis, dowsing }
- G01V 9/005 . { by thermal methods, e.g. after generation of heat by chemical reactions }
- G01V 9/007 . { by detecting gases or particles representative of underground layers at or near the surface (analysing earth materials [G01N 33/24](#) ; analysing gases per se [G01N](#)) }
- G01V 9/02 . Determining existence or flow of underground water

- G01V 11/00** **prospecting or detecting by methods combining techniques covered by two or more of main groups [G01V 1/00](#) to [G01V 9/00](#)**
- G01V 11/002 . { Details, e.g. power supply systems for logging instruments, transmitting or recording data, specially adapted for well logging, also if the prospecting method is irrelevant (means for transmitting well survey signals [E21B 47/12](#) ; signal transmission systems in general [G08C](#) ; transmission in general [H04B](#)) }
- G01V 11/005 . . { Devices for positioning logging sondes with respect to the borehole wall (centralising devices for drilling rods or pipes [E21B 17/10](#) ; setting or locking tools in boreholes [E21B 23/00](#) ; Locating objects in boreholes [E21B 47/09](#)) }
- G01V 11/007 . { using the seismo-electric effect }

- G01V 13/00** **Manufacturing, calibrating, cleaning, or repairing instruments or devices covered by the preceding groups**

- G01V 15/00** **Tags attached to, or associated with, an object, in order to enable detection of the object (record carriers for use with machines [G06K 19/00](#) ; signs, labels [G09F](#))**

- G01V 99/00** **Subject matter not provided for in other groups of this subclass**
- G01V 99/005 . { Geomodels or geomodelling, not related to particular measurements }

G01V 2001/00**Seismology; Seismic or acoustic prospecting or detecting****NOTE**

Groups [G01V 1/44](#) to [G01V 1/52](#) take precedence over groups [G01V 1/001](#) to [G01V 1/393](#)[G01V 1/42](#)

WARNING

Group [G01V 1/159](#) does not correspond to former or current IPC groups.
Concordance ECLA:IPC for this group is as follows: - [G01V 1/159](#) : [G01V 1/02](#)

G01V 2001/16

- . Receiving elements for seismic signals ([electromechanical transducers H04R](#));
Arrangements or adaptations of receiving elements

G01V 2001/20

- .. Arrangements of receiving elements, e.g. geophone pattern

G01V 2001/201

- ... { [Constructional details of seismic cables, e.g. streamers \(integrated optoseismic systems G01V 1/226 ; line connectors in general H01R, transducer mountings in general G10K 11/004 \)](#) }

[G01V 2001/204](#)

- Reinforcements, e.g. by tensioning cables

[G01V 2001/205](#)

- Internal damping

[G01V 2001/207](#)

- Buoyancy

G01V 2001/40

- . specially adapted for well-logging

G01V 2001/52

- .. Structural details

[G01V 2001/526](#)

- ... Mounting of transducers

G01V 2003/00

**Electric or magnetic prospecting or detecting ([by optical means G01V 8/00](#));
Measuring magnetic field characteristics of the earth, e.g. declination, deviation
([for navigation, for surveying G01C](#); { [measuring direction or magnitude of magnetic fields or magnetic flux in general G01R 33/02](#) })**

G01V 2003/08

- . operating with magnetic or electric fields produced or modified by objects or geological structures or by detecting devices ([with electromagnetic waves G01V 3/12 ; measuring the magnetic field characteristics of the earth G01V 3/40](#))

G01V 2003/083

- .. { [Controlled source electromagnetic \[CSEM\] surveying](#) }

[G01V 2003/084](#)

- ... Sources

[G01V 2003/085](#)

- ... Receivers

[G01V 2003/086](#)

- ... Processing

[G01V 2200/00](#)**Details of seismic or acoustic prospecting or detecting in general**[G01V 2200/10](#)

- . Miscellaneous details

[G01V 2200/12](#)

- .. Clock synchronization-related issues

[G01V 2200/14](#)

- .. Quality control

[G01V 2200/16](#)

- .. Measure-while-drilling or logging-while-drilling

[G01V 2210/00](#)**Details of seismic processing or analysis**

| | |
|----------------|---|
| G01V 2210/10 | . Aspects of acoustic signal generation or detection |
| G01V 2210/12 | .. Signal generation |
| G01V 2210/121 | ... Active source |
| G01V 2210/1212 | Shot |
| G01V 2210/1214 | Continuous |
| G01V 2210/1216 | Drilling-related |
| G01V 2210/123 | ... Passive source, e.g. micro-seismics |
| G01V 2210/1232 | Earthquakes |
| G01V 2210/1234 | Hydrocarbon reservoir, e.g. spontaneous or induced fracturing |
| G01V 2210/1236 | Acoustic daylight, e.g. cultural noise |
| G01V 2210/125 | ... Virtual source |
| G01V 2210/127 | ... Cooperating multiple sources |
| G01V 2210/129 | ... Source location |
| G01V 2210/1291 | Air |
| G01V 2210/1293 | Sea |
| G01V 2210/1295 | Land surface |
| G01V 2210/1297 | Sea bed |
| G01V 2210/1299 | Subsurface, e.g. in borehole or below weathering layer or mud line |
| G01V 2210/14 | .. Signal detection |
| G01V 2210/142 | ... Receiver location |
| G01V 2210/1421 | Air |
| G01V 2210/1423 | Sea |
| G01V 2210/1425 | Land surface |
| G01V 2210/1427 | Sea bed |
| G01V 2210/1429 | Subsurface, e.g. in borehole or below weathering layer or mud line |
| G01V 2210/144 | ... with functionally associated receivers, e.g. hydrophone and geophone pairs |
| G01V 2210/16 | .. Survey configurations |
| G01V 2210/161 | ... Vertical seismic profiling [VSP] |
| G01V 2210/163 | ... Cross-well |
| G01V 2210/165 | ... Wide azimuth |
| G01V 2210/167 | ... Very long offset |
| G01V 2210/169 | ... Sparse arrays |
| G01V 2210/20 | . Trace signal pre-filtering to select, remove or transform specific events or signal components, i.e. trace-in/trace-out (removing noise G01V 2210/32) |
| G01V 2210/21 | .. Frequency-domain filtering, e.g. band pass |
| G01V 2210/22 | .. Time-domain filtering |
| G01V 2210/23 | .. Wavelet filtering |
| G01V 2210/24 | .. Multi-trace filtering |
| G01V 2210/242 | ... F-k filtering, e.g. ground roll |
| G01V 2210/244 | ... Radon transform |
| G01V 2210/25 | .. Transform filter for merging or comparing traces from different surveys |

| | | |
|--------------------------------|------|--|
| G01V 2210/26 | .. | Modulation or demodulation, e.g. for continuous sources |
| G01V 2210/27 | .. | Other pre-filtering |
| G01V 2210/30 | . | Noise handling (trace signal pre-filtering G01V 2210/20) |
| G01V 2210/32 | .. | Noise reduction |
| G01V 2210/322 | ... | Trace stacking |
| G01V 2210/324 | ... | Filtering |
| G01V 2210/3242 | .... | Flow noise |
| G01V 2210/3244 | .... | Cultural noise |
| G01V 2210/3246 | .... | Coherent noise, e.g. spatially coherent or predictable |
| G01V 2210/3248 | .... | Incoherent noise, e.g. white noise |
| G01V 2210/34 | .. | Noise estimation (quality control G01V 2200/14) |
| G01V 2210/36 | .. | Noise recycling, i.e. retrieving non-seismic information from noise |
| G01V 2210/38 | .. | Noise characterisation or classification |
| G01V 2210/40 | . | Transforming data representation (for pre-filtering purposes G01V 2210/20) |
| G01V 2210/41 | .. | Arrival times, e.g. of P or S wave or first break |
| G01V 2210/42 | .. | Waveform, i.e. using raw or pre-filtered trace data |
| G01V 2210/43 | .. | Spectral |
| G01V 2210/44 | .. | F-k domain |
| G01V 2210/45 | .. | F-x or F-xy domain |
| G01V 2210/46 | .. | Radon transform |
| G01V 2210/47 | .. | Slowness, e.g. tau-pi |
| G01V 2210/48 | .. | Other transforms |
| G01V 2210/50 | . | Corrections or adjustments related to wave propagation (noise handling G01V 2210/30) |
| G01V 2210/51 | .. | Migration |
| G01V 2210/512 | ... | Pre-stack |
| G01V 2210/514 | ... | Post-stack |
| G01V 2210/52 | .. | Move-out correction |
| G01V 2210/522 | ... | Dip move-out [DMO] |
| G01V 2210/53 | .. | Statics correction, e.g. weathering layer or transformation to a datum |
| G01V 2210/532 | ... | Dynamic changes in statics, e.g. sea waves or tidal influences |
| G01V 2210/54 | .. | Borehole-related corrections |
| G01V 2210/542 | ... | Casing |
| G01V 2210/544 | ... | Invasion zone |
| G01V 2210/55 | .. | Array focusing; Phased arrays |
| G01V 2210/56 | .. | De-ghosting; Reverberation compensation |
| G01V 2210/57 | .. | Trace interpolation or extrapolation, e.g. for virtual receiver; Anti-aliasing for missing receivers |
| G01V 2210/58 | .. | Media-related |
| G01V 2210/582 | ... | Dispersion |
| G01V 2210/584 | ... | Attenuation |

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| G01V 2210/586 | ... | Anisotropic media |
| G01V 2210/588 | ... | Non-linear media |
| G01V 2210/59 | .. | Other corrections |
| G01V 2210/60 | . | Analysis |
| G01V 2210/61 | .. | Analysis by combining or comparing a seismic data set with other data |
| G01V 2210/612 | ... | Previously recorded data, e.g. time-lapse or 4D |
| G01V 2210/6122 | .... | Tracking reservoir changes over time, e.g. due to production |
| G01V 2210/6124 | ..... | Subsidence, i.e. upwards or downwards |
| G01V 2210/614 | ... | Synthetically generated data |
| G01V 2210/616 | ... | Data from specific type of measurement |
| G01V 2210/6161 | .... | Seismic or acoustic, e.g. land or sea measurements |
| G01V 2210/6163 | .... | Electromagnetic |
| G01V 2210/6165 | .... | Gravitational |
| G01V 2210/6167 | .... | Nuclear |
| G01V 2210/6169 | .... | using well-logging |
| G01V 2210/62 | .. | Physical property of subsurface |
| G01V 2210/622 | ... | Velocity, density or impedance |
| G01V 2210/6222 | .... | Velocity; travel time |
| G01V 2210/6224 | .... | Density |
| G01V 2210/6226 | .... | Impedance |
| G01V 2210/624 | ... | Reservoir parameters |
| G01V 2210/6242 | .... | Elastic parameters, e.g. Young, Lam? or Poisson |
| G01V 2210/6244 | .... | Porosity |
| G01V 2210/6246 | .... | Permeability |
| G01V 2210/6248 | .... | Pore pressure |
| G01V 2210/626 | ... | with anisotropy |
| G01V 2210/63 | .. | Seismic attributes, e.g. amplitude, polarity, instant phase |
| G01V 2210/632 | ... | Amplitude variation versus offset or angle of incidence [AVA, AVO, AVI] |
| G01V 2210/64 | .. | Geostructures, e.g. in 3D data cubes |
| G01V 2210/641 | ... | Continuity of geobodies |
| G01V 2210/642 | ... | Faults |
| G01V 2210/643 | ... | Horizon tracking |
| G01V 2210/644 | ... | Connectivity, e.g. for fluid movement |
| G01V 2210/645 | ... | Fluid contacts |
| G01V 2210/646 | ... | Fractures |
| G01V 2210/647 | ... | Gas hydrates |
| G01V 2210/65 | .. | Source localisation, e.g. faults, hypocenters or reservoirs |
| G01V 2210/66 | .. | Subsurface modeling |
| G01V 2210/661 | ... | Model from sedimentation process modeling, e.g. from first principles |
| G01V 2210/663 | ... | Modeling production-induced effects |
| G01V 2210/665 | ... | using geostatistical modeling |

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| G01V 2210/6652 | | Kriging |
| G01V 2210/667 | ... | Determining confidence or uncertainty in parameters |
| G01V 2210/67 | .. | Wave propagation modeling |
| G01V 2210/671 | ... | Raytracing |
| G01V 2210/673 | ... | Finite-element; Finite-difference |
| G01V 2210/675 | ... | Wave equation; Green's functions |
| G01V 2210/677 | ... | Spectral; Pseudo-spectral |
| G01V 2210/679 | ... | Reverse-time modeling or coalescence modelling, i.e. starting from receivers |
| G01V 2210/70 | . | Other details related to processing |
| G01V 2210/72 | .. | Real-time processing |
| G01V 2210/74 | .. | Visualisation of seismic data |