

**CPC****COOPERATIVE PATENT CLASSIFICATION****G01V****G01V** **GEOPHYSICS; 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**

1. In this subclass, the geophysical methods apply both to the earth and to other celestial objects, e.g. planets.
2. 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 3/101](#) ,  
[G01V 3/104](#)

**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](#)

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

- 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 <a href="#">G01V 1/226</a> ; line connectors in general <a href="#">H01R</a> , transducer mountings in general <a href="#">G10K 11/004</a> )}
G01V 1/202	....	{Connectors, e.g. for force, signal or power}
G01V 2001/204	....	{Reinforcements, e.g. by tensioning cables}
G01V 2001/205	....	{Internal damping}
G01V 2001/207	....	{Buoyancy}
G01V 1/208	....	{having a continuous structure (detecting traffic <a href="#">G08G</a> , transducers in general <a href="#">G10K</a> )}
G01V 1/22	.	Transmitting seismic signals to recording or processing apparatus (signal transmitting systems in general <a href="#">G08C</a> ; transmission systems in general <a href="#">H04B</a> )
G01V 1/223	..	{Radioseismic systems}
G01V 1/226	..	{Optoseismic systems}
G01V 1/24	.	Recording seismic data (transforming one recording into another <a href="#">G01V 1/32</a> ; recording measured values in general <a href="#">G01D</a> )
G01V 1/242	..	{Seismographs}
G01V 1/245	..	{Amplitude control for seismic recording (control of amplification in general <a href="#">H03G</a> )}
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 ( <a href="#">G01V 1/48</a> 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 <a href="#">G01V 1/008</a> ; <a href="#">G01V 1/36</a> takes precedence)
G01V 1/30	..	Analysis ( <a href="#">G01V 1/50</a> 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 <a href="#">E21B 47/00</a> )}
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 ( <a href="#">G01V 1/37</a> 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 ( <a href="#">G01V 1/28</a> , { <a href="#">G01V 1/42</a> } take precedence)
G01V 1/3808	..	{Seismic data acquisition, e.g. survey design (in general <a href="#">G01V 1/003</a> )}
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 <a href="#">B63B</a> )}
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 ( <a href="#">G01V 1/52</a> takes precedence)
G01V 1/44	..	using generators and receivers in the same well ( <a href="#">G01V 1/52</a> 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 2001/526	...	{Mounting of transducers}

<b>G01V 3/00</b>	<b>Electric or magnetic prospecting or detecting (by optical means <a href="#">G01V 8/00</a>); Measuring magnetic field characteristics of the earth, e.g. declination, deviation (for navigation, for surveying <a href="#">G01C</a>; { measuring direction or magnitude of magnetic fields or magnetic flux in general <a href="#">G01R 33/02</a>})</b>
<a href="#">G01V 3/02</a>	. operating with propagation of electric current
<a href="#">G01V 3/04</a>	.. using dc
<a href="#">G01V 3/06</a>	.. using ac
<a href="#">G01V 3/08</a>	. operating with magnetic or electric fields produced or modified by objects or geological structures or by detecting devices (with electromagnetic waves <a href="#">G01V 3/12</a> ; measuring the magnetic field characteristics of the earth <a href="#">G01V 3/40</a> )
<a href="#">G01V 3/081</a>	.. {the magnetic field is produced by the objects or geological structures (characterised by the method of magnetic field measurement <a href="#">G01R 33/00</a> )}
<a href="#">G01V 3/082</a>	.. {operating with fields produced by spontaneous potentials, e.g. electrochemical or produced by telluric currents ( <a href="#">G01V 3/26</a> takes precedence)}
<a href="#">G01V 3/083</a>	.. {Controlled source electromagnetic [CSEM] surveying}
<a href="#">G01V 2003/084</a>	... {Sources}
<a href="#">G01V 2003/085</a>	... {Receivers}
<a href="#">G01V 2003/086</a>	... {Processing}
<a href="#">G01V 3/087</a>	.. {the earth magnetic field being modified by the objects or geological structures}
<a href="#">G01V 3/088</a>	.. {operating with electric fields ( <a href="#">G01V 3/082</a> takes precedence)}
<a href="#">G01V 3/10</a>	.. using induction coils
<a href="#">G01V 3/101</a>	... {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 <a href="#">G01R 27/00</a> , e.g. quality factor <a href="#">G01R 27/26</a> )}
<a href="#">G01V 3/102</a>	.... {by measuring amplitude}
<a href="#">G01V 3/104</a>	... {using several coupled or uncoupled coils ( <a href="#">G01V 3/101</a> takes precedence)}
<a href="#">G01V 3/105</a>	.... {forming directly coupled primary and secondary coils or loops}
<a href="#">G01V 3/107</a>	..... {using compensating coil or loop arrangements}
<a href="#">G01V 3/108</a>	.... {the emitter and the receiver coils or loops being uncoupled by positioning them perpendicularly to each other}
<a href="#">G01V 3/12</a>	. operating with electromagnetic waves {(operating with millimetre waves <a href="#">G01V 8/005</a> )}
<a href="#">G01V 3/14</a>	. operating with electron or nuclear magnetic resonance
<a href="#">G01V 3/15</a>	. specially adapted for use during transport, e.g. by a person, vehicle or boat
<a href="#">G01V 3/16</a>	.. specially adapted for use from aircraft ( <a href="#">G01V 3/165</a> to <a href="#">G01V 3/175</a> take precedence)
<a href="#">G01V 3/165</a>	.. operating with magnetic or electric fields produced or modified by the object or by the detecting device (with electromagnetic waves <a href="#">G01V 3/17</a> )
<a href="#">G01V 3/17</a>	.. operating with electromagnetic waves {(operating with millimetre waves <a href="#">G01V 8/005</a> )}
<a href="#">G01V 3/175</a>	.. operating with electron or nuclear magnetic resonance
<a href="#">G01V 3/18</a>	. specially adapted for well-logging
<a href="#">G01V 3/20</a>	.. operating with propagation of electric current
<a href="#">G01V 3/22</a>	... 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**



G01V 8/00  
(continued)

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 loseey 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](#))
  - .. using one transmitter and one receiver
  - ... using reflectors
  - ... using optical fibres
  - ... using mechanical scanning systems
- 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}



<b>G01V 2200/00</b>	<b>Details of seismic or acoustic prospecting or detecting in general</b>
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
<b>G01V 2210/00</b>	<b>Details of seismic processing or analysis</b>
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
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
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