

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

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 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 [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 2001/526	...	{ Mounting of transducers }
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 2003/084	...	{ Sources }
G01V 2003/085	...	{ Receivers }
G01V 2003/086	...	{ Processing }
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 conveyor [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 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
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