

CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS (NOTES omitted)

INSTRUMENTS

G01 MEASURING (counting [G06M](#)); TESTING (NOTES omitted)

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](#))

NOTES

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 in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

[G01V 3/11](#) covered by [G01V 3/101](#), [G01V 3/104](#)

1/00	Seismology; Seismic or acoustic prospecting or detecting	1/09	. . . Transporting arrangements, e.g. on vehicles (G01V 1/38 takes precedence)
	<u>NOTE</u>	1/104	. . using explosive charges (G01V 1/157 takes precedence)
	Groups G01V 1/44 - G01V 1/52 take precedence over groups G01V 1/001 - G01V 1/393 G01V 1/42	1/108	. . . by deforming or displacing surfaces of enclosures
1/001	. {Acoustic presence detection (measurement of sonic vibrations G01H ; alarm systems G08B)}	1/112	. . . . for use on the surface of the earth
1/003	. {Seismic data acquisition in general, e.g. survey design (G01V 1/3808 , G01V 1/42 takes precedence)}	1/116	. . . where pressurised combustion gases escape from the generator in a pulsating manner, e.g. for generating bursts
1/005	. . {with exploration systems emitting special signals, e.g. frequency swept signals, pulse sequences or slip sweep arrangements}	1/13	. . . Arrangements or disposition of charges to produce a desired pattern in space or time
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)}	1/133	. . using fluidic driving means, e.g. highly pressurised fluids; {using implosion} (G01V 1/104 takes precedence)
1/008	. {Earthquake measurement or prediction (event detection for microseismic events G01V 1/288)}	1/135	. . . by deforming or displacing surfaces of enclosures {, e.g. by hydraulically driven vibroseis™}
1/02	. Generating seismic energy ({ G01V 1/003 takes precedence }; blasting in general F42 ; nuclear explosives G21J)	1/137	. . . which fluid escapes from the generator in a pulsating manner, e.g. for generating bursts {, airguns}
1/04	. . Details	1/143	. . using mechanical driving means {, e.g. motor driven shaft} (G01V 1/104 , G01V 1/133 take precedence)
1/047	. . . Arrangements for coupling the generator to the ground	1/145	. . . by deforming or displacing surfaces {, e.g. by mechanically driven vibroseis™}
1/0475	. . . . {for controlling "Ground Force"}	1/147	. . . using impact of dropping masses
1/053	. . . . for generating transverse waves	1/153	. . . using rotary unbalanced masses
1/06	. . . Ignition devices (G01V 1/393 takes precedence)	1/155	. . . using reciprocating masses
1/08	. . . . involving time-delay devices		

- 1/157 . . using spark discharges; using exploding wires (spark gaps, {non-enclosed} discharge apparatus, not otherwise provided for [H01T](#))
- 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](#))}
- 1/16 . Receiving elements for seismic signals (electromechanical transducers [H04R](#)); Arrangements or adaptations of receiving elements
- 1/162 . . {Details}
- 1/164 . . . {Circuits therefore}
- 1/166 . . . {Arrangements for coupling receivers to the ground}
- 1/168 . . {Deployment of receiver elements ([G01V 1/3843](#) takes precedence)}
- 1/18 . . Receiving elements, e.g. seismometer, geophone {or torque detectors, for localised single point measurements}
- 1/181 . . . {Geophones}
- 1/182 {with moving coil}
- 1/183 {with moving magnet}
- 1/184 {Multi-component geophones}
- 1/185 {with adaptable orientation, e.g. gimballed}
- 1/186 . . . {Hydrophones}
- 1/187 {Direction-sensitive hydrophones}
- 1/188 {with pressure compensating means}
- 1/189 . . . {Combinations of different types of receiving elements}
- 1/20 . . Arrangements of receiving elements, e.g. geophone pattern
- 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](#))}
- 1/202 {Connectors, e.g. for force, signal or power}
- 2001/204 {Reinforcements, e.g. by tensioning cables}
- 2001/205 {Internal damping}
- 2001/207 {Buoyancy}
- 1/208 {having a continuous structure (detecting traffic [G08G](#), transducers in general [G10K](#))}
- 1/22 . Transmitting seismic signals to recording or processing apparatus (signal transmitting systems in general [G08C](#); transmission systems in general [H04B](#))
- 1/223 . . {Radioseismic systems}
- 1/226 . . {Optoseismic systems}
- 1/24 . Recording seismic data (transforming one recording into another [G01V 1/32](#); recording measured values in general [G01D](#))
- 1/242 . . {Seismographs}
- 1/245 . . {Amplitude control for seismic recording (control of amplification in general [H03G](#))}
- 1/247 . . {Digital recording of seismic data, e.g. in acquisition units or nodes}
- 1/26 . . Reference-signal-transmitting devices, e.g. indicating moment of firing of shot
- 1/28 . Processing seismic data, e.g. analysis, for interpretation, for correction ([G01V 1/48](#) takes precedence)
- 1/282 . . {Application of seismic models, synthetic seismograms}
- 1/284 . . {Application of the shear wave component and/or several components of the seismic signal}
- 1/286 . . . {Mode conversion}
- 1/288 . . {Event detection in seismic signals, e.g. microseisms (earthquakes [G01V 1/008](#); [G01V 1/36](#) takes precedence)}
- 1/30 . . Analysis ([G01V 1/50](#) takes precedence)
- 1/301 . . . {for determining seismic cross-sections or geostructures}
- 1/302 {in 3D data cubes}
- 1/303 . . . {for determining velocity profiles or travel times}
- 1/305 {Travel times}
- 1/306 . . . {for determining physical properties of the subsurface, e.g. impedance, porosity or attenuation profiles}
- 1/307 . . . {for determining seismic attributes, e.g. amplitude, instantaneous phase or frequency, reflection strength or polarity}
- 1/308 . . . {Time lapse or 4D effects, e.g. production related effects to the formation (fluid flow [per se E21B 47/00](#))}
- 1/32 . . Transforming one recording into another {or one representation into another}
- 1/325 . . . {Transforming one representation into another}
- 1/34 . . Displaying seismic recordings {or visualisation of seismic data or attributes}
- 1/345 . . . {Visualisation of seismic data or attributes, e.g. in 3D cubes}
- 1/36 . . Effecting static or dynamic corrections on records, e.g. correcting spread; Correlating seismic signals; Eliminating effects of unwanted energy
- 1/362 . . . {Effecting static or dynamic corrections; Stacking}
- 1/364 . . . {Seismic filtering ([G01V 1/37](#) takes precedence)}
- 1/366 {by correlation of seismic signals}
- 1/368 {Inverse filtering}
- 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}
- 1/375 {Correlating received seismic signals with the emitted source signal}
- 1/38 . . specially adapted for water-covered areas ([G01V 1/28](#), [G01V 1/42](#) take precedence)
- 1/3808 . . {Seismic data acquisition, e.g. survey design (in general [G01V 1/003](#))}
- 1/3817 . . {Positioning of seismic devices}
- 1/3826 . . . {dynamic steering, e.g. by paravanes or birds}
- 1/3835 . . . {measuring position, e.g. by GPS or acoustically}
- 1/3843 . . {Deployment of seismic devices, e.g. of streamers (equipment for marine deployment in general [B63B](#))}
- 1/3852 . . . {to the seabed}
- 1/3861 . . {control of source arrays, e.g. for far field control}
- 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

- 1/393 . . Means for loading explosive underwater charges, e.g. combined with ignition devices
- 1/40 . specially adapted for well-logging
- 1/42 . . using generators in one well and receivers elsewhere or *vice versa* ([G01V 1/52](#) takes precedence)
- 1/44 . . using generators and receivers in the same well ([G01V 1/52](#) takes precedence)
- 1/46 . . . Data acquisition
- 1/48 . . . Processing data
- 1/50 Analysing data
- 1/52 . . Structural details
- 1/523 . . . {Damping devices}
- 2001/526 . . . {Mounting of transducers}
- 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](#)})**
 - 3/02 . operating with propagation of electric current
 - 3/04 . . using dc
 - 3/06 . . using ac
 - 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](#)*)
 - 3/081 . . {the magnetic field is produced by the objects or geological structures (*characterised by the method of magnetic field measurement [G01R 33/00](#)*)}
 - 3/082 . . {operating with fields produced by spontaneous potentials, e.g. electrochemical or produced by telluric currents (*[G01V 3/26](#) takes precedence*)}
 - 3/083 . . {Controlled source electromagnetic [CSEM] surveying}
 - 2003/084 . . . {Sources}
 - 2003/085 . . . {Receivers}
 - 2003/086 . . . {Processing}
 - 3/087 . . {the earth magnetic field being modified by the objects or geological structures}
 - 3/088 . . {operating with electric fields (*[G01V 3/082](#) takes precedence*)}
 - 3/10 . . using induction coils
 - 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](#)*)}
 - 3/102 {by measuring amplitude}
 - 3/104 . . . {using several coupled or uncoupled coils (*[G01V 3/101](#) takes precedence*)}
 - 3/105 {forming directly coupled primary and secondary coils or loops}
 - 3/107 {using compensating coil or loop arrangements}
 - 3/108 {the emitter and the receiver coils or loops being uncoupled by positioning them perpendicularly to each other}
 - 3/12 . operating with electromagnetic waves {(operating with millimetre waves [G01V 8/005](#))}
 - 3/14 . operating with electron or nuclear magnetic resonance
- 3/15 . specially adapted for use during transport, e.g. by a person, vehicle or boat
- 3/16 . . specially adapted for use from aircraft ([G01V 3/165](#) - [G01V 3/175](#) take precedence)
- 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](#)*)
- 3/17 . . operating with electromagnetic waves {(operating with millimetre waves [G01V 8/005](#))}
- 3/175 . . operating with electron or nuclear magnetic resonance
- 3/18 . specially adapted for well-logging
- 3/20 . . operating with propagation of electric current
- 3/22 . . . using dc
- 3/24 . . . using ac
- 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](#)*)
- 3/265 . . . {Operating with fields produced by spontaneous potentials, e.g. electrochemicals or produced by telluric currents}
- 3/28 . . . using induction coils
- 3/30 . . operating with electromagnetic waves
- 3/32 . . operating with electron or nuclear magnetic resonance
- 3/34 . . Transmitting data to recording or processing apparatus; Recording data
- 3/36 . Recording data (*[G01V 3/34](#) takes precedence*)
- 3/38 . Processing data, e.g. for analysis, for interpretation, for correction (*computing in general [G06](#)*)
- 3/40 . specially adapted for measuring magnetic field characteristics of the earth
- 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](#))**
 - 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](#))}
 - 5/0016 . . {Active interrogation, i.e. using an external radiation source, e.g. using pulsed, continuous or cosmic rays}

WARNING

Group [G01V 5/0016](#) is impacted by reclassification into group [G01V 5/0069](#). Groups [G01V 5/0016](#) and [G01V 5/0069](#) should be considered in order to perform a complete search.
 - 5/0025 . . . {Measuring scattered radiation}
 - 5/0033 . . . {Mixed interrogation beams, e.g. using more than one type of radiation beam}
 - 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](#)*)}

- 5/005 . . . {using Tomography, e.g. CT or SPECT (detector details in CT applications [G01T 1/2985](#))}
 - 5/0058 . . . {using stereoscopic means}
 - 5/0066 . . . {having relative motion between the source, detector and object other than by conveyor ([G01V 5/005](#) takes precedence)}
 - 5/0069 . . . {Measuring induced radiation, e.g. thermal neutron activation analysis (investigating or analysing materials by the use of neutrons [G01N 23/222](#))}
- WARNING**
- Group [G01V 5/0069](#) is incomplete pending reclassification of documents from group [G01V 5/0016](#).
- Groups [G01V 5/0016](#) and [G01V 5/0069](#) should be considered in order to perform a complete search.
- 5/0075 . . {Passive interrogation (for hand, feet or portals [G01T 1/167](#); for contaminated surface areas [G01T 1/169](#))}
 - 5/0083 . . {utilizing a network, e.g. a remote expert, accessing remote data or the like}
 - 5/0091 . . {detecting special nuclear material [SNM], e.g. Uranium-235, Uranium-233 or Plutonium-239}
 - 5/02 . specially adapted for surface logging, e.g. from aircraft
 - 5/025 . . {specially adapted for use from aircraft}
 - 5/04 . specially adapted for well-logging
 - 5/045 . . {Transmitting data to recording or processing apparatus; Recording data}
 - 5/06 . . for detecting naturally radioactive minerals
 - 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](#))}
 - 5/085 . . . {using another radioactive source}
 - 5/10 . . . using neutron sources {(neutron generating tubes [H05H 5/00](#); neutron sources using isotopes [G21G 4/00](#))}
 - 5/101 {and detecting the secondary Y-rays produced in the surrounding layers of the bore hole}
 - 5/102 {the neutron source being of the pulsed type}
 - 5/104 {and detecting secondary Y-rays as well as reflected or back-scattered neutrons}
 - 5/105 {the neutron source being of the pulsed type}
 - 5/107 {and detecting reflected or back-scattered neutrons}
 - 5/108 {the neutron source being of the pulsed type}
 - 5/12 . . . using gamma or X-ray sources {(gamma sources using isotopes [G21G 4/00](#); X-ray tubes [H01J 35/00](#))}
 - 5/125 {and detecting the secondary gamma- or X-rays in different places along the bore hole}
 - 5/14 . . . using a combination of several sources, e.g. a neutron and a gamma source
 - 5/145 {using a neutron source combined with a gamma- or X-ray source}

- 7/00 Measuring gravitational fields or waves; Gravimetric prospecting or detecting**
- 7/005 . {using a resonating body or device, e.g. string ([G01V 7/08](#) - [G01V 7/12](#) take precedence; measuring resonant frequency of mechanical vibrations [G01H 13/00](#); measuring frequency per se [G01R 23/00](#))}
- 7/02 . Details
- 7/04 . . Electric, photoelectric, or magnetic indicating or recording means
- 7/06 . . Analysis or interpretation of gravimetric records
- 7/08 . using balances (balances in general [G01G](#))
- 7/10 . . using torsion balances, e.g. Eötvös balance
- 7/12 . using pendulums
- 7/14 . using free-fall time
- 7/16 . specially adapted for use on moving platforms, e.g. ship, aircraft
- 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.
- 8/005 . {operating with millimetre waves, e.g. measuring the black losey radiation}
- 8/02 . Prospecting
- 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](#))
- 8/12 . . using one transmitter and one receiver
- 8/14 . . . using reflectors
- 8/16 . . . using optical fibres
- 8/18 . . . using mechanical scanning systems
- 8/20 . . using multiple transmitters or receivers
- 8/22 . . . using reflectors
- 8/24 . . . using optical fibres
- 8/26 . . . using mechanical scanning systems
- 9/00 Prospecting or detecting by methods not provided for in groups [G01V 1/00](#) - [G01V 8/00](#)**
- 9/002 . {using fields or radiation detectable only by persons susceptible therefor, e.g. radio-esthesia, dowsing}
- 9/005 . {by thermal methods, e.g. after generation of heat by chemical reactions}
- 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](#))}
- 9/02 . Determining existence or flow of underground water
- 11/00 Prospecting or detecting by methods combining techniques covered by two or more of main groups [G01V 1/00](#) - [G01V 9/00](#)**

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)}	2210/144	. . . with functionally associated receivers, e.g. hydrophone and geophone pairs
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)}	2210/16	. . Survey configurations
11/007	. {using the seismo-electric effect}	2210/161	. . . Vertical seismic profiling [VSP]
13/00	Manufacturing, calibrating, cleaning, or repairing instruments or devices covered by the preceding groups	2210/163	. . . Cross-well
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)	2210/165	. . . Wide azimuth
99/00	Subject matter not provided for in other groups of this subclass	2210/167	. . . Very long offset
99/005	. {Geomodels or geomodelling, not related to particular measurements}	2210/169	. . . Sparse arrays
2200/00	Details of seismic or acoustic prospecting or detecting in general	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)
2200/10	. Miscellaneous details	2210/21	. . Frequency-domain filtering, e.g. band pass
2200/12	. . Clock synchronization-related issues	2210/22	. . Time-domain filtering
2200/14	. . Quality control	2210/23	. . Wavelet filtering
2200/16	. . Measure-while-drilling or logging-while-drilling	2210/24	. . Multi-trace filtering
2210/00	Details of seismic processing or analysis	2210/242	. . . F-k filtering, e.g. ground roll
2210/10	. Aspects of acoustic signal generation or detection	2210/244	. . . Radon transform
2210/12	. . Signal generation	2210/25	. . Transform filter for merging or comparing traces from different surveys
2210/121	. . . Active source	2210/26	. . Modulation or demodulation, e.g. for continuous sources
2210/1212	. . . . Shot	2210/27	. . Other pre-filtering
2210/1214	. . . . Continuous	2210/30	. Noise handling (trace signal pre-filtering G01V 2210/20)
2210/1216	. . . . Drilling-related	2210/32	. . Noise reduction
2210/123	. . . Passive source, e.g. microseismics	2210/322	. . . Trace stacking
2210/1232	. . . . Earthquakes	2210/324	. . . Filtering
2210/1234	. . . . Hydrocarbon reservoir, e.g. spontaneous or induced fracturing	2210/3242	. . . . Flow noise
2210/1236	. . . . Acoustic daylight, e.g. cultural noise	2210/3244	. . . . Cultural noise
2210/125	. . . Virtual source	2210/3246	. . . . Coherent noise, e.g. spatially coherent or predictable
2210/127	. . . Cooperating multiple sources	2210/3248	. . . . Incoherent noise, e.g. white noise
2210/129	. . . Source location	2210/34	. . Noise estimation (quality control G01V 2200/14)
2210/1291	. . . . Air	2210/36	. . Noise recycling, i.e. retrieving non-seismic information from noise
2210/1293	. . . . Sea	2210/38	. . Noise characterisation or classification
2210/1295	. . . . Land surface	2210/40	. Transforming data representation (for pre-filtering purposes G01V 2210/20)
2210/1297	. . . . Sea bed	2210/41	. . Arrival times, e.g. of P or S wave or first break
2210/1299	. . . . Subsurface, e.g. in borehole or below weathering layer or mud line	2210/42	. . Waveform, i.e. using raw or pre-filtered trace data
2210/14	. . Signal detection	2210/43	. . Spectral
2210/142	. . . Receiver location	2210/44	. . F-k domain
2210/1421	. . . . Air	2210/45	. . F-x or F-xy domain
2210/1423	. . . . Sea	2210/46	. . Radon transform
2210/1425	. . . . Land surface	2210/47	. . Slowness, e.g. tau-pi
2210/1427	. . . . Sea bed	2210/48	. . Other transforms
2210/1429	. . . . Subsurface, e.g. in borehole or below weathering layer or mud line	2210/50	. Corrections or adjustments related to wave propagation (noise handling G01V 2210/30)
		2210/51	. . Migration
		2210/512	. . . Pre-stack
		2210/514	. . . Post-stack
		2210/52	. . Move-out correction
		2210/522	. . . Dip move-out [DMO]
		2210/53	. . Statics correction, e.g. weathering layer or transformation to a datum
		2210/532	. . . Dynamic changes in statics, e.g. sea waves or tidal influences
		2210/54	. . Borehole-related corrections
		2210/542	. . . Casing
		2210/544	. . . Invasion zone
		2210/55	. . Array focusing; Phased arrays
		2210/56	. . De-ghosting; Reverberation compensation

2210/57	. .	Trace interpolation or extrapolation, e.g. for virtual receiver; Anti-aliasing for missing receivers	2210/677	. . .	Spectral; Pseudo-spectral
2210/58	. .	Media-related	2210/679	. . .	Reverse-time modeling or coalescence modelling, i.e. starting from receivers
2210/582	. . .	Dispersion	2210/70	. .	Other details related to processing
2210/584	. . .	Attenuation	2210/72	. .	Real-time processing
2210/586	. . .	Anisotropic media	2210/74	. .	Visualisation of seismic data
2210/588	. . .	Non-linear media			
2210/59	. .	Other corrections			
2210/60	. .	Analysis			
2210/61	. .	Analysis by combining or comparing a seismic data set with other data			
2210/612	. . .	Previously recorded data, e.g. time-lapse or 4D			
2210/6122	. . . .	Tracking reservoir changes over time, e.g. due to production			
2210/6124	. . . . .	Subsidence, i.e. upwards or downwards			
2210/614	. . .	Synthetically generated data			
2210/616	. . .	Data from specific type of measurement			
2210/6161	. . . .	Seismic or acoustic, e.g. land or sea measurements			
2210/6163	. . . .	Electromagnetic			
2210/6165	. . . .	Gravitational			
2210/6167	. . . .	Nuclear			
2210/6169	. . . .	using well-logging			
2210/62	. .	Physical property of subsurface			
2210/622	. . .	Velocity, density or impedance			
2210/6222	. . . .	Velocity; travel time			
2210/6224	. . . .	Density			
2210/6226	. . . .	Impedance			
2210/624	. . .	Reservoir parameters			
2210/6242	. . . .	Elastic parameters, e.g. Young, Lamé or Poisson			
2210/6244	. . . .	Porosity			
2210/6246	. . . .	Permeability			
2210/6248	. . . .	Pore pressure			
2210/626	. . .	with anisotropy			
2210/63	. .	Seismic attributes, e.g. amplitude, polarity, instant phase			
2210/632	. . .	Amplitude variation versus offset or angle of incidence [AVA, AVO, AVI]			
2210/64	. .	Geostructures, e.g. in 3D data cubes			
2210/641	. . .	Continuity of geobodies			
2210/642	. . .	Faults			
2210/643	. . .	Horizon tracking			
2210/644	. . .	Connectivity, e.g. for fluid movement			
2210/645	. . .	Fluid contacts			
2210/646	. . .	Fractures			
2210/647	. . .	Gas hydrates			
2210/65	. .	Source localisation, e.g. faults, hypocenters or reservoirs			
2210/66	. .	Subsurface modeling			
2210/661	. . .	Model from sedimentation process modeling, e.g. from first principles			
2210/663	. . .	Modeling production-induced effects			
2210/665	. . .	using geostatistical modeling			
2210/6652	. . . .	Kriging			
2210/667	. . .	Determining confidence or uncertainty in parameters			
2210/67	. .	Wave propagation modeling			
2210/671	. . .	Raytracing			
2210/673	. . .	Finite-element; Finite-difference			
2210/675	. . .	Wave equation; Green's functions			