

## SECTION G — PHYSICS

### G01 MEASURING; TESTING

**G01V GEOPHYSICS; GRAVITATIONAL MEASUREMENTS; DETECTING MASSES OR OBJECTS; TAGS** (means for indicating the location of accidentally buried, e.g. snow-buried, persons A63B 29/02) [4, 6]

#### Note(s)

1. This subclass covers radar, sonar, lidar or analogous systems specifically designed for geophysical use. Radar, sonar, lidar or analogous systems, or details of such systems, if of a general interest, are also classified in subclass G01S.
2. In this subclass, the following term is used with the meaning indicated:
  - "tags" means arrangements cooperating with a detecting field, e.g. near field, and designed to produce a specific detectable effect; "tags" also means active markers capable of generating a detectable field.
3. In this subclass, the geophysical methods apply both to the earth and to other celestial objects, e.g. planets.
4. Attention is drawn to the Notes following the title of class G01.

#### Subclass index

##### APPARATUS OR METHODS OF PROSPECTING OR DETECTING

Seismic or acoustic.....	1/00
Electric, magnetic; by nuclear radiation; gravimetric; by optical means.....	3/00, 5/00, 7/00, 8/00
Others or combined.....	9/00, 11/00
Detection using tags.....	15/00

##### MEASURING FIELDS

Magnetic; gravitational.....	3/00, 7/00
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##### MANUFACTURING, CALIBRATING, MAINTENANCE.....13/00

#### **1/00 Seismology; Seismic or acoustic prospecting or detecting**

- 1/02 • Generating seismic energy
- 1/04 • • Details
- 1/047 • • • Arrangements for coupling the generator to the ground [3]
- 1/053 • • • • for generating transverse waves [3]
- 1/06 • • • Ignition devices (G01V 1/393 takes precedence) [3]
- 1/08 • • • • involving time-delay devices
- 1/09 • • • Transporting arrangements, e.g. on vehicles (G01V 1/38 takes precedence) [3]
- 1/104 • • using explosive charges (G01V 1/157 takes precedence) [3]
- 1/108 • • • by deforming or displacing surfaces of enclosures [3]
- 1/112 • • • • for use on the surface of the earth [3]
- 1/116 • • • where pressurised combustion gases escape from the generator in a pulsating manner, e.g. for generating bursts [3]
- 1/13 • • • Arrangements or disposition of charges to produce a desired pattern in space or time
- 1/133 • • using fluidic driving means, e.g. using highly pressurised fluids (G01V 1/104 takes precedence) [3]
- 1/135 • • • by deforming or displacing surfaces of enclosures [3]
- 1/137 • • • which fluids escape from the generator in a pulsating manner, e.g. for generating bursts [3]

- 1/143 • • using mechanical driving means (G01V 1/104, G01V 1/133 takes precedence) [3]
- 1/145 • • • by deforming or displacing surfaces [3]
- 1/147 • • • using impact of dropping masses [3]
- 1/153 • • • using rotary unbalanced masses [3]
- 1/155 • • • using reciprocating masses [3]
- 1/157 • • using spark discharges; using exploding wires [3]
- 1/16 • Receiving elements for seismic signals; Arrangements or adaptations of receiving elements
- 1/18 • • Receiving elements, e.g. seismometer, geophone [2]
- 1/20 • • Arrangements of receiving elements, e.g. geophone pattern
- 1/22 • Transmitting seismic signals to recording or processing apparatus
- 1/24 • Recording seismic data
- 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) [6]
- 1/30 • • Analysis (G01V 1/50 takes precedence) [6]
- 1/32 • • Transforming one recording into another
- 1/34 • • Displaying seismic recordings
- 1/36 • • Effecting static or dynamic corrections on records, e.g. correcting spread; Correlating seismic signals; Eliminating effects of unwanted energy
- 1/37 • • • specially adapted for seismic systems using continuous agitation of the ground [3]

- 1/38 • specially adapted for water-covered areas (G01V 1/28 takes precedence)
- 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 [3]
- 1/393 • • Means for loading explosive underwater charges, e.g. combined with ignition devices [3]
- 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) [6]
- 1/44 • • using generators and receivers in the same well (G01V 1/52 takes precedence) [6]
- 1/46 • • • Data acquisition [6]
- 1/48 • • • Processing data [6]
- 1/50 • • • Analysing data [6]
- 1/52 • • Structural details [6]
- 3/00 Electric or magnetic prospecting or detecting; Measuring magnetic field characteristics of the earth, e.g. declination or deviation [2, 4]**
- Note(s)**
- Groups G01V 3/15-G01V 3/18 take precedence over groups G01V 3/02-G01V 3/14.
- 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)
- 3/10 • • using induction coils
- 3/11 • • • for detecting conductive objects, e.g. firearms, cables or pipes [3]
- 3/12 • operating with electromagnetic waves
- 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]
- 3/16 • • specially adapted for use from aircraft (G01V 3/165-G01V 3/175 take precedence) [3]
- 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]
- 3/17 • • operating with electromagnetic waves [3]
- 3/175 • • operating with electron or nuclear magnetic resonance [3]
- 3/18 • specially adapted for well-logging
- 3/20 • • operating with propagation of electric current [3]
- 3/22 • • • using dc [3]
- 3/24 • • • using ac [3]
- 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]
- 3/28 • • • using induction coils [3]
- 3/30 • • operating with electromagnetic waves [3]
- 3/32 • • operating with electron or nuclear magnetic resonance [3]
- 3/34 • • Transmitting data to recording or processing apparatus; Recording data [3]
- 3/36 • Recording data (G01V 3/34 takes precedence) [3]
- 3/38 • Processing data, e.g. for analysis, for interpretation or for correction [3]

- 3/40 • specially adapted for measuring magnetic field characteristics of the earth [3]
- 5/00 Prospecting or detecting by the use of nuclear radiation, e.g. of natural or induced radioactivity**
- 5/02 • specially adapted for surface logging, e.g. from aircraft [3]
- 5/04 • specially adapted for well-logging [3]
- 5/06 • • for detecting naturally radioactive minerals [3]
- 5/08 • • using primary nuclear radiation sources or X-rays [3]
- 5/10 • • • using neutron sources [3]
- 5/12 • • • using gamma- or X-ray sources [3]
- 5/14 • • • using a combination of several sources, e.g. a neutron and a gamma source [3]
- 7/00 Measuring gravitational fields or waves; Gravimetric prospecting or detecting**
- 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
- 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 [6]**
- Note(s)**
- This group covers the use of infra-red, visible or ultra-violet light.
- 8/02 • Prospecting [6]
- 8/10 • Detecting, e.g. by using light barriers (by reflection from the object G01S 17/00) [6]
- 8/12 • • using one transmitter and one receiver [6]
- 8/14 • • • using reflectors [6]
- 8/16 • • • using optical fibres [6]
- 8/18 • • • using mechanical scanning systems [6]
- 8/20 • • using multiple transmitters or receivers [6]
- 8/22 • • • using reflectors [6]
- 8/24 • • • using optical fibres [6]
- 8/26 • • • using mechanical scanning systems [6]
- 9/00 Prospecting or detecting by methods not provided for in groups G01V 1/00-G01V 8/00 [6]**
- 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**
- 13/00 Manufacturing, calibrating, cleaning, or repairing instruments or devices covered by groups G01V 1/00-G01V 11/00**
- 15/00 Tags attached to, or associated with, an object, in order to enable detection of the object (record carriers for use with machines having a detectable tag or marker G06K 19/00) [6]**

**Note(s)**

This group does not cover detectors or detection methods, e.g. methods in which the object to be detected produces or modifies magnetic or electric fields, which are covered elsewhere, e.g. in group G01V 3/00.

**99/00** Subject matter not provided for in other groups of this subclass [2009.01]