

## SECTION G — PHYSICS

## G01 MEASURING; TESTING

## G01J MEASUREMENT OF INTENSITY, VELOCITY, SPECTRAL CONTENT, POLARISATION, PHASE OR PULSE CHARACTERISTICS OF INFRA-RED, VISIBLE OR ULTRA-VIOLET LIGHT; COLORIMETRY; RADIATION PYROMETRY [2]

**Note(s)**

1. This subclass covers the detection of the presence or absence of infra-red, visible, or ultra-violet light, not otherwise provided for.
2. Attention is drawn to the Notes following the title of class G01.

**Subclass index**

PHOTOMETRY; PYROMETRY.....1/00, 5/00  
 SPECTROMETRY; MEASURING: POLARISATION; VELOCITY; PHASE; PULSES.....3/00, 4/00, 7/00, 9/00, 11/00

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| <p><b>1/00 Photometry, e.g. photographic exposure meter</b><br/>(spectrophotometry G01J 3/00; specially adapted for radiation pyrometry G01J 5/00)</p> <p>1/02 • Details</p> <p>1/04 • • Optical or mechanical part</p> <p>1/06 • • • Restricting the angle of incident light</p> <p>1/08 • • Arrangements of light sources specially adapted for photometry</p> <p>1/10 • by comparison with reference light or electric value</p> <p>1/12 • • using wholly visual means (G01J 1/20 takes precedence)</p> <p>1/14 • • • using comparison with a surface of graded brightness</p> <p>1/16 • • using electric radiation detectors (G01J 1/20 takes precedence)</p> <p>1/18 • • • using comparison with a reference electric value</p> <p>1/20 • • intensity of the measured or reference value being varied to equalise their effects at the detector, e.g. by varying incidence angle</p> <p>1/22 • • • using a variable element in the light-path, e.g. filter, polarising means (G01J 1/34 takes precedence)</p> <p>1/24 • • • • using electric radiation detectors</p> <p>1/26 • • • • adapted for automatic variation of the measured or reference value</p> <p>1/28 • • • using variation of intensity or distance of source (G01J 1/34 takes precedence)</p> <p>1/30 • • • • using electric radiation detectors</p> <p>1/32 • • • • adapted for automatic variation of the measured or reference value</p> <p>1/34 • • • using separate light-paths used alternately or sequentially, e.g. flicker</p> <p>1/36 • • • • using electric radiation detectors</p> <p>1/38 • using wholly visual means (G01J 1/10 takes precedence)</p> <p>1/40 • • using limit of visibility or extinction effect</p> | <p>1/42 • using electric radiation detectors (optical or mechanical part G01J 1/04; by comparison with a reference light or electric value G01J 1/10)</p> <p>1/44 • • Electric circuits</p> <p>1/46 • • • using a capacitor</p> <p>1/48 • using chemical effects</p> <p>1/50 • • using change in colour of an indicator, e.g. actinometer</p> <p>1/52 • • using photographic effects</p> <p>1/54 • • by observing photo-reactions between gases</p> <p>1/56 • using radiation pressure or radiometer effect</p> <p>1/58 • using luminescence generated by light</p> <p>1/60 • by measuring the pupil of the eye</p> <p><b>3/00 Spectrometry; Spectrophotometry; Monochromators; Measuring colours [4]</b></p> <p>3/02 • Details</p> <p>3/04 • • Slit arrangements</p> <p>3/06 • • Scanning arrangements</p> <p>3/08 • • Beam-switching arrangements</p> <p>3/10 • • Arrangements of light sources specially adapted for spectrometry or colorimetry</p> <p>3/12 • Generating the spectrum; Monochromators</p> <p>3/14 • • using refracting elements, e.g. prism (G01J 3/18, G01J 3/26 take precedence)</p> <p>3/16 • • • with autocollimation</p> <p>3/18 • • using diffraction elements, e.g. grating</p> <p>3/20 • • • Rowland circle spectrometers</p> <p>3/22 • • • Littrow mirror spectrometers</p> <p>3/24 • • • using gratings profiled to favour a specific order</p> <p>3/26 • • using multiple reflection, e.g. Fabry-Perot interferometer, variable interference filter</p> <p>3/28 • Investigating the spectrum (using colour filters G01J 3/51) [4]</p> <p>3/30 • • Measuring the intensity of spectral lines directly on the spectrum itself (G01J 3/42, G01J 3/44 take precedence)</p> |
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- 3/32 • • • Investigating bands of a spectrum in sequence by a single detector
- 3/36 • • • Investigating two or more bands of a spectrum by separate detectors
- 3/40 • • Measuring the intensity of spectral lines by determining density of a photograph of the spectrum; Spectrography (G01J 3/42, G01J 3/44 take precedence) [4]
- 3/42 • • Absorption spectrometry; Double-beam spectrometry; Flicker spectrometry; Reflection spectrometry (beam-switching arrangements G01J 3/08) [4]
- 3/427 • • • Dual wavelength spectrometry [4]
- 3/433 • • • Modulation spectrometry; Derivative spectrometry [4]
- 3/44 • • Raman spectrometry; Scattering spectrometry [4]
- 3/443 • • Emission spectrometry [4]
- 3/447 • • Polarisation spectrometry [4]
- 3/45 • • Interferometric spectrometry [4]
- 3/453 • • • by correlation of the amplitudes [4]
- 3/457 • • Correlation spectrometry, e.g. of the intensity (G01J 3/453 takes precedence) [4]
- 3/46 • • Measurement of colour; Colour measuring devices, e.g. colorimeters (measuring colour temperature G01J 5/60) [4]
- 3/50 • • using electric radiation detectors [4]
- 3/51 • • • using colour filters [4]
- 3/52 • • using colour charts
- 4/00 Measuring polarisation of light [2]**
- 4/02 • • Polarimeters of separated-field type; Polarimeters of half-shadow type [2]
- 4/04 • • Polarimeters using electric detection means (G01J 4/02 takes precedence) [2]
- 5/00 Radiation pyrometry**
- 5/02 • Details
- 5/04 • • Casings
- 5/06 • • Arrangements for eliminating effects of disturbing radiation
- 5/08 • • Optical features
- 5/10 • using electric radiation detectors
- 5/12 • • using thermoelectric elements, e.g. thermocouples
- 5/14 • • • Electrical features
- 5/16 • • • • Arrangements with respect to the cold junction; Compensating influence of ambient temperature or other variables

- 5/18 • • • • Special adaptation for indicating or recording
- 5/20 • • using resistors, thermistors, or semiconductors sensitive to radiation
- 5/22 • • • Electrical features
- 5/24 • • • • Use of a specially-adapted circuit, e.g. bridge circuit
- 5/26 • • • • Special adaptation for indicating or recording
- 5/28 • • using photo-emissive, photo-conductive, or photo-voltaic cells
- 5/30 • • • Electrical features
- 5/32 • • • • Special adaptation for indicating or recording
- 5/34 • • using capacitors
- 5/36 • • using ionisation of gases
- 5/38 • using extension or expansion of solids or fluids
- 5/40 • • using bimetallic elements
- 5/42 • • using Golay cells
- 5/44 • • using change of resonant frequency, e.g. of piezo-electric crystal
- 5/46 • using radiation pressure or radiometer effect
- 5/48 • using wholly visual means
- 5/50 • using techniques specified in the subgroups below
- 5/52 • • using comparison with reference sources, e.g. disappearing-filament pyrometer
- 5/54 • • • Optical features
- 5/56 • • • Electrical features
- 5/58 • • using absorption; using polarisation; using extinction effect
- 5/60 • • using determination of colour temperature
- 5/62 • • using means for chopping the light
- 7/00 Measuring velocity of light**
- 9/00 Measuring optical phase difference; Determining degree of coherence; Measuring optical wavelength (spectrometry G01J 3/00) [3]**
- 9/02 • by interferometric methods [3]
- 9/04 • by beating two waves of the same source but of different frequency and measuring the phase shift of the lower frequency obtained [3]
- 11/00 Measuring the characteristics of individual optical pulses or of optical pulse trains [5]**