

CPC**COOPERATIVE PATENT CLASSIFICATION****G01J**

MEASUREMENT OF INTENSITY, VELOCITY, SPECTRAL CONTENT, POLARISATION, PHASE OR PULSE CHARACTERISTICS OF INFRA-RED, VISIBLE OR ULTRA-VIOLET LIGHT; COLORIMETRY; RADIATION PYROMETRY (light sources [F21](#), [H01J](#), [H01K](#), [H05B](#); investigating properties of materials by optical means [G01N](#))

NOTES

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](#).

G01J 1/00

Photometry, e.g. photographic exposure meter (spectrophotometry [G01J 3/00](#); specially adapted for radiation pyrometry [G01J 5/00](#) {exposure meters built in cameras [G03B 17/06](#)})

- G01J 1/02
 - . Details
- G01J 1/0204
 - . . {Compact construction}
- G01J 1/0209
 - . . . {Monolithic}
- G01J 1/0214
 - . . {Constructional arrangements for removing stray light}
- G01J 1/0219
 - . . {Electrical interface; User interface}
- G01J 1/0223
 - . . {Sample holders for photometry}
- G01J 1/0228
 - . . {Control of working procedures; Failure detection; Spectral bandwidth calculation}
- G01J 1/0233
 - . . {Handheld}
- G01J 1/0238
 - . . {making use of sensor-related data, e.g. for identification of sensor or optical parts}
- G01J 1/0242
 - . . {Control or determination of height or angle information of sensors or receivers; Goniophotometry}
- G01J 1/0247
 - . . {using a charging unit}
- G01J 1/0252
 - . . {Constructional arrangements for compensating for fluctuations caused by e.g. temperature, or using cooling or temperature stabilization of parts of the device; Controlling the atmosphere inside a photometer; Purge systems, cleaning devices (protection against electromagnetic interferences [G01J 2001/0276](#))}
- G01J 2001/0257
 - . . {portable}
- G01J 2001/0261
 - . . . {Pocket size; Card size}
- G01J 1/0266
 - . . {Field-of-view determination; Aiming or pointing of a photometer; Adjusting alignment; Encoding angular position; Size of the measurement area; Position tracking; Photodetection involving different fields of view for a single detector}
- G01J 1/0271
 - . . {Housings; Attachments or accessories for photometers}
- G01J 2001/0276
 - . . {Protection}
- G01J 2001/028
 - . . . {against liquid}

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| G01J 2001/0285 | . . . {against laser damage} |
| G01J 1/029 | . . {Multi-channel photometry} |
| G01J 1/0295 | . . {Constructional arrangements for removing other types of optical noise or for performing calibration} |
| G01J 1/04 | . . Optical or mechanical part {supplementary adjustable parts} |
| G01J 1/0403 | . . . {Mechanical elements; Supports for optical elements; Scanning arrangements} |
| G01J 1/0407 | . . . {Optical elements not provided otherwise, e.g. manifolds, windows, holograms, gratings} |
| G01J 1/0411 | {using focussing or collimating elements, i.e. lenses or mirrors; Aberration correction} |
| G01J 1/0414 | {using plane or convex mirrors, parallel phase plates, or plane beam-splitters} |
| G01J 1/0418 | {using attenuators} |
| G01J 1/0422 | {using light concentrators, collectors or condensers} |
| G01J 1/0425 | {using optical fibers} |
| G01J 1/0429 | {using polarisation elements} |
| G01J 1/0433 | {using notch filters} |
| G01J 1/0437 | {using masks, aperture plates, spatial light modulators, spatial filters, e.g. reflective filters} |
| G01J 1/044 | {using shutters} |
| G01J 1/0444 | {using means for replacing an element by another, e.g. for replacing a filter or grating} |
| G01J 1/0448 | {Adjustable, e.g. focussing} |
| G01J 1/0451 | {using means for illuminating a slit efficiently, e.g. entrance slit of a photometer or entrance face of fiber} |
| G01J 1/0455 | {having a throughhole enabling the optical element to fulfil an additional optical function, e.g. a mirror or grating having a through-hole for a light collecting or light injecting optical fibre} |
| G01J 1/0459 | {using an optical amplifier of light or coatings to improve optical coupling} |
| G01J 1/0462 | {Slit arrangements} |
| G01J 1/0466 | {with a sighting port} |
| G01J 1/047 | {using extension/expansion of solids or fluids, change of resonant frequency or extinction effect} |
| G01J 1/0474 | {Diffusers (cavities G01J 2001/0481)} |
| G01J 1/0477 | {Prisms, wedges} |
| G01J 2001/0481 | . . . {Preset integrating sphere or cavity} |
| G01J 2001/0485 | . . . {Cosinus correcting or purposely modifying the angular response of a light sensor} |
| G01J 1/0488 | . . . {with spectral filtering} |
| G01J 1/0492 | {using at least two different filters} |
| G01J 2001/0496 | {using fiber Bragg gratings} |
| G01J 1/06 | . . . Restricting the angle of incident light |

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| G01J 2001/061 | {Baffles} |
| G01J 2001/062 | {by fibre-optic packed bundle} |
| G01J 2001/063 | {with selectable field of view} |
| G01J 2001/065 | {by changing elements} |
| G01J 2001/066 | {with an aiming optical device} |
| G01J 2001/067 | {for angle scan} |
| G01J 2001/068 | {by diaphragm or the like} |
| G01J 1/08 | . . Arrangements of light sources specially adapted for photometry {standard sources, also using luminescent or radioactive material} |
| G01J 2001/083 | . . . {Testing response of detector} |
| G01J 2001/086 | . . . {Calibrating drift correction} |
| G01J 1/10 | . by comparison with reference light or electric value {provisionally void} |
| G01J 1/12 | . . using wholly visual means (G01J 1/20 takes precedence) |
| G01J 1/122 | . . . {Visual exposure meters for determining the exposure time in photographic recording or reproducing} |
| G01J 1/124 | {based on the comparison of the intensity of measured light with a comparison source or comparison illuminated surface} |
| G01J 1/126 | {for enlarging apparatus} |
| G01J 1/128 | {for copy- or printing apparatus} |
| G01J 1/14 | . . . using comparison with a surface of graded brightness, {(e.g. for view taking; for analytical applications G01N 21/293)} |
| G01J 1/16 | . . using electric radiation detectors (G01J 1/20 takes precedence) |
| G01J 2001/1605 | . . . {Null method} |
| G01J 2001/161 | . . . {Ratio method, i.e. I_m/I_r } |
| G01J 2001/1615 | {Computing a difference/sum ratio, i.e. $(I_m - I_r) / (I_m + I_r)$ } |
| G01J 2001/1621 | {Comparing a duty ratio of pulses} |
| G01J 1/1626 | . . . {Arrangements with two photodetectors, the signals of which are compared} |
| G01J 2001/1631 | {Bridge circuit} |
| G01J 2001/1636 | {one detector directly monitoring the source, e.g. also impulse time controlling} |
| G01J 2001/1642 | {and acting on the detecting circuit} |
| G01J 2001/1647 | {one signal maintained constant} |
| G01J 2001/1652 | {one detector being transparent before the other one} |
| G01J 2001/1657 | {one signal being spectrally modified, e.g. for UV} |
| G01J 2001/1663 | {two detectors of different sensitivity} |
| G01J 2001/1668 | . . . {the measuring signal itself varying in time, e.g. periodic, for example blood pulsation} |
| G01J 2001/1673 | . . . {using a reference sample} |
| G01J 2001/1678 | . . . {Comparing time separated signals, i.e. chopped} |
| G01J 2001/1684 | {and selecting also a DC level from the signal} |
| G01J 2001/1689 | {one separated signal being processed differently} |

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| G01J 2001/1694 | {with a signal from on/off switched light source} |
| G01J 1/18 | . . . using comparison with a reference electric value |
| G01J 2001/182 | {with SH sample and hold circuits} |
| G01J 2001/184 | {on a succession of signals} |
| G01J 2001/186 | {Comparison or correction from an electric source within the processing circuit} |
| G01J 2001/188 | {on pulse train} |
| G01J 1/20 | . . intensity of the measured or reference value being varied to equalise their effects at the detectors, e.g. by varying incidence angle |
| G01J 1/22 | . . . using a variable element in the light-path, e.g. filter, polarising means (G01J 1/34 takes precedence) |
| G01J 1/24 | using electric radiation detectors |
| G01J 2001/242 | {Filter wheel, i.e. absorption filter series graduated} |
| G01J 2001/245 | {with two or more separate attenuated steps} |
| G01J 2001/247 | {of spectral wedge type} |
| G01J 1/26 | adapted for automatic variation of the measured or reference value (regulation of light intensity G05D 25/00) |
| G01J 1/28 | . . . using variation of intensity or distance of source (G01J 1/34 takes precedence) |
| G01J 1/30 | using electric radiation detectors |
| G01J 1/32 | adapted for automatic variation of the measured or reference value (regulation of light intensity G05D 25/00) |
| G01J 1/34 | . . . using separate light paths used alternately or sequentially, e.g. flicker |
| G01J 1/36 | using electric radiation detectors |
| G01J 2001/363 | {Chopper stabilisation} |
| G01J 2001/366 | {Balancing two paths} |
| G01J 1/38 | . using wholly visual means (G01J 1/10 takes precedence) |
| G01J 1/40 | . . using limit or visibility or extinction effect |
| G01J 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) |
| G01J 1/4204 | . . {with determination of ambient light (solar light G01J 2001/4266)} |
| G01J 1/4209 | . . {Photoelectric exposure meters for determining the exposure time in recording or reproducing} |
| G01J 1/4214 | . . . {specially adapted for view-taking apparatus} |
| G01J 1/4219 | . . . {specially adapted for enlargers} |
| G01J 1/4223 | . . . {specially adapted for copy - or printing apparatus} |
| G01J 1/4228 | . . {arrangements with two or more detectors, e.g. for sensitivity compensation} |
| G01J 2001/4233 | . . . {with selection of detector} |
| G01J 2001/4238 | . . {Pulsed light} |
| G01J 2001/4242 | . . {Modulated light, e.g. for synchronizing source and detector circuit} |
| G01J 2001/4247 | . . {for testing lamps or other light sources} |
| G01J 2001/4252 | . . . {for testing LED's} |

- G01J 1/4257 . . {applied to monitoring the characteristics of a beam, e.g. laser beam, headlamp beam (monitoring arrangements for lasers in general [H01S 3/0014](#))}
- G01J 2001/4261 . . . {Scan through beam in order to obtain a cross-sectional profile of the beam}
- G01J 2001/4266 . . {for measuring solar light}
- G01J 2001/4271 . . . {Pyrrheliometer}
- G01J 2001/4276 . . . {Solar energy integrator over time}
- G01J 2001/428 . . . {for sunlight scattered by atmosphere}
- G01J 2001/4285 . . . {Pyranometer, i.e. integrating over space}
- G01J 1/429 . . {applied to measurement of ultraviolet light (using counting tubes [G01T](#))}
- G01J 2001/4295 . . {using a physical effect not covered by other subgroups of [G01J 1/42](#)}
- G01J 1/44 . . Electric circuits {(for command of an exposure part [G03B 7/02](#))}
- G01J 2001/4406 . . . {Plural ranges in circuit, e.g. switchable ranges; Adjusting sensitivity selecting gain values}
- G01J 2001/4413 . . . {Type}
- G01J 2001/442 {Single-photon detection or photon counting}
- G01J 2001/4426 {with intensity to frequency or voltage to frequency conversion [IFC or VFC]}
- G01J 2001/4433 {Peak sensing}
- G01J 2001/444 . . . {Compensating; Calibrating, e.g. dark current, temperature drift, noise reduction or baseline correction; Adjusting}
- G01J 2001/4446 . . . {Type of detector}
- G01J 2001/4453 {PMT}
- G01J 2001/446 {Photodiode}
- G01J 2001/4466 {Avalanche}
- G01J 2001/4473 {Phototransistor}
- G01J 2001/448 {Array [CCD]}
- G01J 2001/4486 {Streak tube}
- G01J 2001/4493 {with image intensifier tube [IIT]}
- G01J 1/46 . . . using a capacitor
- G01J 1/48 . . using chemical effects
- G01J 1/50 . . using change in colour of an indicator, e.g. actinometer
- G01J 1/52 . . using photographic effects
- G01J 1/54 . . by observing photo-reactions between gases
- G01J 1/56 . . using radiation pressure or radiometer effect
- G01J 1/58 . . using luminescence generated by light
- G01J 1/60 . . by measuring the pupil of the eye
- G01J 3/00 Spectrometry; Spectrophotometry; Monochromators; Measuring colour**
- G01J 2003/003 . . {Comparing spectra of two light sources}
- G01J 2003/006 . . {Fundamentals or review articles}

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| G01J 3/02 | • Details |
| G01J 3/0202 | • • {Mechanical elements; Supports for optical elements} |
| G01J 3/0205 | • • {Optical elements not provided otherwise, e. g. optical manifolds, diffusers, windows} |
| G01J 3/0208 | • • • {using focussing or collimating elements, e.g. lenses or mirrors; performing aberration correction} |
| G01J 3/021 | • • • {using plane or convex mirrors, parallel phase plates, or particular reflectors} |
| G01J 3/0213 | • • • {using attenuators} |
| G01J 3/0216 | • • • {using light concentrators or collectors or condensers} |
| G01J 3/0218 | • • • {using optical fibers} |
| G01J 3/0221 | • • • • {the fibers defining an entry slit} |
| G01J 3/0224 | • • • {using polarising or depolarising elements} |
| G01J 3/0227 | • • • {using notch filters} |
| G01J 3/0229 | • • • {using masks, aperture plates, spatial light modulators or spatial filters, e.g. reflective filters} |
| G01J 3/0232 | • • • {using shutters} |
| G01J 3/0235 | • • • {using means for replacing an element by another, for replacing a filter or a grating} |
| G01J 3/0237 | • • • {Adjustable, e.g. focussing} |
| G01J 3/024 | • • • {using means for illuminating a slit efficiently (e.g. entrance slit of a spectrometer or entrance face of fiber)} |
| G01J 3/0243 | • • • {having a through-hole enabling the optical element to fulfil an additional optical function, e.g. a mirror or grating having a throughhole for a light collecting or light injecting optical fiber} |
| G01J 3/0245 | • • • {using an optical amplifier of light, e.g. doped fiber} |
| G01J 3/0248 | • • • {using a sighting port, e.g. camera or human eye} |
| G01J 3/0251 | • • • {Colorimeters making use of an integrating sphere} |
| G01J 3/0254 | • • • {Spectrometers, other than colorimeters, making use of an integrating sphere} |
| G01J 3/0256 | • • {Compact construction} |
| G01J 3/0259 | • • • {Monolithic} |
| G01J 3/0262 | • • {Constructional arrangements for removing stray light} |
| G01J 3/0264 | • • {Electrical interface; User interface} |
| G01J 3/0267 | • • {Sample holders for colorimetry} |
| G01J 3/027 | • • {Control of working procedures of a spectrometer; Failure detection; Bandwidth calculation} |
| G01J 3/0272 | • • {Handheld} |
| G01J 3/0275 | • • {making use of sensor-related data, e. g. for identification of sensor parts or optical elements} |
| G01J 3/0278 | • • {Control or determination of height or angle information for sensors or receivers} |
| G01J 2003/0281 | • • {slitless} |

- G01J 3/0283 . . {using a charging unit}
- G01J 3/0286 . . {Constructional arrangements for compensating for fluctuations caused by temperature, humidity or pressure, or using cooling or temperature stabilization of parts of the device; Controlling the atmosphere inside a spectrometer, e.g. vacuum}
- G01J 3/0289 . . {Field-of-view determination; Aiming or pointing of a spectrometer; Adjusting alignment; Encoding angular position; Size of measurement area; Position tracking}
- G01J 3/0291 . . {Housings; Spectrometer accessories; Spatial arrangement of elements, e.g. folded path arrangements}
- G01J 3/0294 . . {Multi-channel spectroscopy}
- G01J 3/0297 . . {Constructional arrangements for removing other types of optical noise or for performing calibration}
- G01J 3/04 . . Slit arrangements {slit adjustment}
- G01J 2003/042 . . . {Slit wheel}
- G01J 2003/045 . . . {Sequential slits; Multiple slits}
- G01J 2003/047 . . . {Configuration of two or more entry or exit slits for predetermined delta-lambda}
- G01J 3/06 . . Scanning arrangements {arrangements for order-selection}
- G01J 2003/061 . . . {Mechanisms, e.g. sine bar}
- G01J 2003/062 . . . {motor-driven}
- G01J 2003/063 {Step motor}
- G01J 2003/064 . . . {Use of other elements for scan, e.g. mirror, fixed grating}
- G01J 2003/065 {Use of fibre scan for spectral scan}
- G01J 2003/066 . . . {Microprocessor control of functions, e.g. slit, scan, bandwidth during scan}
- G01J 2003/067 . . . {Use of plane parallel plate, e.g. small scan, wobble}
- G01J 2003/068 . . . {tuned to preselected wavelengths}
- G01J 2003/069 . . . {Complex motion, e.g. rotation of grating and correcting translation}
- G01J 3/08 . . Beam switching arrangements
- G01J 3/10 . . Arrangements of light sources specially adapted for spectrometry or colorimetry
- G01J 2003/102 . . . {Plural sources}
- G01J 2003/104 {Monochromatic plural sources}
- G01J 2003/106 {the two sources being alternating or selectable, e.g. in two ranges or line:continuum}
- G01J 3/108 . . . {for measurement in the infra-red range}
- G01J 3/12 . . Generating the spectrum; Monochromators
- G01J 2003/1204 . . {Grating and filter}
- G01J 2003/1208 . . {Prism and grating}
- G01J 2003/1213 . . {Filters in general, e.g. dichroic, band}
- G01J 2003/1217 . . . {Indexed discrete filters or choppers}
- G01J 2003/1221 . . . {Mounting; Adjustment}

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| G01J 2003/1226 | . . {Interference filters} |
| G01J 2003/123 | . . . {Indexed discrete filters} |
| G01J 2003/1234 | . . . {Continuously variable IF [CVIF]; Wedge type} |
| G01J 2003/1239 | . . . {and separate detectors} |
| G01J 2003/1243 | . . . {Pivoting IF or other position variation} |
| G01J 2003/1247 | . . . {Tuning} |
| G01J 2003/1252 | . . . {Using "resonance cell", e.g. Na vapor} |
| G01J 3/1256 | . . {using acousto-optic tunable filter; (acousto-optic elements or systems G02F 1/11 , G02F 1/33)} |
| G01J 2003/126 | . . {Focal isolation type} |
| G01J 2003/1265 | . . {the wavelengths being separated in time, e.g. through optical fibre array} |
| G01J 2003/1269 | . . {Electrooptic filter} |
| G01J 2003/1273 | . . {Order selection} |
| G01J 2003/1278 | . . {Mask with spectral selection} |
| G01J 2003/1282 | . . {Spectrum tailoring} |
| G01J 2003/1286 | . . {Polychromator in general} |
| G01J 2003/1291 | . . {polarised, birefringent} |
| G01J 2003/1295 | . . {Plural entry slits, e.g. for different incidences} |
| G01J 3/14 | . . using refracting elements, e.g. prisms (G01J 3/18 , G01J 3/26 take precedence {prisms per se G02B 5/04 }) |
| G01J 2003/145 | . . . {Prism systems for straight view} |
| G01J 3/16 | . . . with autocollimation |
| G01J 3/18 | . . using diffraction elements, e.g. grating (gratings per se G02B) |
| G01J 3/1804 | . . . {Plane gratings} |
| G01J 3/1809 | . . . {Echelle gratings} |
| G01J 2003/1814 | . . . {Double monochromator} |
| G01J 2003/1819 | {Double pass monochromator} |
| G01J 2003/1823 | {subtractive} |
| G01J 2003/1828 | . . . {with order sorter or prefilter} |
| G01J 3/1833 | . . . {Grazing incidence} |
| G01J 3/1838 | . . . {Holographic gratings} |
| G01J 2003/1842 | . . . {Types of grating} |
| G01J 2003/1847 | {Variable spacing} |
| G01J 2003/1852 | {Cylindric surface} |
| G01J 2003/1857 | {Toroid surface} |
| G01J 2003/1861 | {Transmission gratings} |
| G01J 2003/1866 | . . . {Monochromator for three or more wavelengths} |
| G01J 2003/1871 | {Duochromator} |
| G01J 2003/1876 | {Polychromator} |
| G01J 2003/188 | . . . {Constant deviation} |

- G01J 2003/1885 . . . {Holder for interchangeable gratings, e.g. at different ranges of wavelengths}
- G01J 3/189 . . . {using at least one grating in an off-plane configuration}
- G01J 3/1895 . . . {using fiber Bragg gratings or gratings integrated in a waveguide}
- G01J 3/20 . . . Rowland circle spectrometers
- G01J 3/22 . . . Littrow mirror spectrometers

WARNING

material provisionally in [G01J 3/18](#)

- G01J 3/24 . . . using gratings profiled to favour a specific order
- G01J 3/26 . . . using multiple reflection, e.g. Fabry-Perot interferometer, variable interference filters
- G01J 2003/262 . . . {Double pass; Multiple pass}
- G01J 2003/265 . . . {Read out, e.g. polychromator}
- G01J 2003/267 . . . {of the SISAM type}
- G01J 3/28 . . . Investigating the spectrum (using colour filters [G01J 3/51](#))
- G01J 3/2803 . . . {using photoelectric array detector}
- G01J 2003/2806 . . . {Array and filter array}
- G01J 2003/2809 . . . {Array and correcting filter}
- G01J 2003/2813 . . . {2D-array}
- G01J 2003/2816 . . . {Semiconductor laminate layer}
- G01J 2003/282 . . . {Modified CCD or like}
- G01J 3/2823 . . . {Imaging spectrometer}
- G01J 2003/2826 . . . {Multispectral imaging, e.g. filter imaging}
- G01J 2003/283 . . . {computer-interfaced}
- G01J 2003/2833 . . . {and memorised spectra collection}
- G01J 2003/2836 . . . {Programming unit, i.e. source and date processing}
- G01J 2003/284 . . . {Spectral construction}
- G01J 2003/2843 . . . {Processing for eliminating interfering spectra}
- G01J 3/2846 . . . {using modulation grid; Grid spectrometers}
- G01J 2003/285 . . . {Hadamard transformation}
- G01J 2003/2853 . . . {Averaging successive scans or readings}
- G01J 2003/2856 . . . {and calculation of standard deviation}
- G01J 2003/2859 . . . {Peak detecting in spectrum}
- G01J 2003/2863 . . . {and calculating peak area}
- G01J 2003/2866 . . . {Markers; Calibrating of scan}
- G01J 2003/2869 . . . {Background correcting}
- G01J 2003/2873 . . . {Storing reference spectrum}
- G01J 2003/2876 . . . {Correcting linearity of signal}
- G01J 2003/2879 . . . {Calibrating scan, e.g. Fabry Perot interferometer}
- G01J 2003/2883 . . . {Correcting overlapping}

- G01J 2003/2886 . . {Investigating periodic spectrum}
- G01J 3/2889 . . {Rapid scan spectrometers; Time resolved spectrometry}
- G01J 2003/2893 . . . {with rotating grating}
- G01J 2003/2896 . . {Vidicon, image intensifier tube}
- G01J 3/30 . . Measuring the intensity of spectral line directly on the spectrum itself
([G01J 3/42](#), [G01J 3/44](#) take precedence)
- G01J 3/32 . . . Investigating bands of a spectrum in sequence by a single detector
- G01J 2003/323 {Comparing line:background}
- G01J 2003/326 {Scanning mask, plate, chopper, e.g. small spectrum interval}
- G01J 3/36 . . . Investigating two or more bands of a spectrum by separate detectors
- G01J 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)
- G01J 3/42 . . Absorption spectrometry; Double beam spectrometry; Flicker spectrometry;
Reflection spectrometry (beam switching arrangements [G01J 3/08](#))
- G01J 2003/421 . . . {Single beam}
- G01J 2003/423 . . . {Spectral arrangements using lasers, e.g. tunable}
- G01J 2003/425 . . . {Reflectance}
- G01J 3/427 . . . Dual wavelengths spectrometry
- G01J 2003/4275 {Polarised dual wavelength spectrometry}
- G01J 3/433 . . . Modulation spectrometry; Derivative spectrometry
- G01J 2003/4332 {frequency-modulated}
- G01J 2003/4334 {by modulation of source, e.g. current modulation}
- G01J 2003/4336 {by magnetic modulation, e.g. Zeeman effect}
- G01J 3/4338 {Frequency modulated spectrometry}
- G01J 3/44 . . Raman spectrometry; Scattering spectrometry; {Fluorescence spectrometry}
- G01J 3/4406 . . . {Fluorescence spectrometry}
- G01J 3/4412 . . . {Scattering spectrometry (particle sizing by light scattering
[G01N 15/0205](#); optical velocimetry of particles [G01P 5/20](#), [G01P 5/26](#))}
- G01J 2003/4418 {Power spectrum}
- G01J 2003/4424 . . . {Fluorescence correction for Raman spectrometry}
- G01J 3/443 . . Emission spectrometry
- G01J 2003/4435 . . . {Measuring ratio of two lines, e.g. internal standard}
- G01J 3/447 . . Polarisation spectrometry
- G01J 3/45 . . Interferometric spectrometry
- G01J 2003/451 . . . {Dispersive interferometric spectrometry}
- G01J 2003/452 . . . {with recording of image of spectral transformation, e.g. hologram}
- G01J 3/453 . . . by correlation of the amplitudes
- G01J 3/4531 {Devices without moving parts}
- G01J 3/4532 {Devices of compact or symmetric construction ([G01J 3/4531](#) takes
precedence)}
- G01J 2003/4534 {Interferometer on illuminating side}

- G01J 3/4535 {Devices with moving mirror ([G01J 3/4532](#) takes precedence)}
- G01J 3/4537 {Devices with refractive scan}
- G01J 2003/4538 {Special processing}
- G01J 3/457 . . Correlation spectrometry, e.g. of the intensity ([G01J 3/453](#) takes precedence)
- G01J 3/46 . Measurement of colour; Colour measuring devices, e.g. colorimeters ([measuring colour temperature G01J 5/60](#))
- G01J 3/461 . . {with colour spinners}
- G01J 3/462 . . {Computing operations in or between colour spaces; Colour management systems}
- G01J 3/463 . . {Colour matching}
- G01J 3/465 . . {taking into account the colour perception of the eye; using tristimulus detection}
- G01J 2003/466 . . {Coded colour; Recognition of predetermined colour; Determining proximity to predetermined colour}
- G01J 2003/467 . . {Colour computing}
- G01J 2003/468 . . {of objects containing fluorescent agent}
- G01J 3/50 . . using electric radiation detectors
- G01J 3/501 . . . {Colorimeters using spectrally-selective light sources, e.g. LEDs}
- G01J 3/502 . . . {using a dispersive element, e.g. grating, prism}
- G01J 2003/503 . . . {Densitometric colour measurements}
- G01J 3/504 . . . {Goniometric colour measurements, for example measurements of metallic or flake based paints}
- G01J 3/505 . . . {measuring the colour produced by lighting fixtures other than screens, monitors, displays or CRTs}
- G01J 3/506 . . . {measuring the colour produced by screens, monitors, displays or CRTs}
- G01J 2003/507 . . . {the detectors being physically selective}
- G01J 3/508 . . . {measuring the colour of teeth}
- G01J 3/51 . . . using colour filters
- G01J 3/513 {having fixed filter-detector pairs}
- G01J 2003/516 {with several stacked filters or stacked filter-detector pairs}
- G01J 3/52 . . using colour charts
- G01J 3/522 . . . {circular colour charts}
- G01J 3/524 . . . {Calibration of colorimeters}
- G01J 3/526 . . . {for choosing a combination of different colours, e.g. to produce a pleasing effect for an observer}
- G01J 3/528 {using colour harmony theory}
- G01J 4/00** **Measuring polarisation of light** ([investigating or analysing materials by measuring rotation of plane of polarised light G01N 21/21](#))
- G01J 2004/001 . {Devices}
- G01J 2004/002 . . {Selecting polarisation direction}
- G01J 2004/004 . . . {sequential, i.e. time-divided}

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| G01J 2004/005 | . . . {simultaneous, i.e. space-divided} |
| G01J 2004/007 | . . . {Mechanical mounting} |
| G01J 2004/008 | . {Polarisation rate} |
| G01J 4/02 | . Polarimeters of separated-field type; Polarimeters of half-shadow type |
| G01J 4/04 | . Polarimeters using electric detection means (G01J 4/02 takes precedence) |
| G01J 5/00 | Radiation pyrometry (photometry in general G01J 1/00 ; spectrometry in general G01J 3/00 {measuring temperature in general, i.e. with a contacting sensor G01K ; calorimetry of radiation beams G01K 17/00 ; direction finders for radiant sources G01S ; intrusion detection by radiation G08B }) |
| G01J 5/0003 | . {for sensing the radiant heat transfer of samples, e.g. emittance meter} |
| G01J 5/0007 | . . {of wafers or semiconductor substrates, e.g. using Rapid Thermal Processing} |
| G01J 5/0011 | . . {Ear thermometers (G01J 5/021 and G01J 5/049 take precedence)} |
| G01J 5/0014 | . {for sensing the radiation from gases, flames} |
| G01J 5/0018 | . . {Flames, plasma or welding} |
| G01J 5/0022 | . {for sensing the radiation of moving bodies} |
| G01J 5/0025 | . . {Living bodies (ear thermometers G01J 5/0011 ; detecting, measuring or recording for diagnostic purposes A61B 5/00)} |
| G01J 2005/0029 | . . {Sheet} |
| G01J 2005/0033 | . . {Wheel} |
| G01J 5/0037 | . {for sensing the heat emitted by liquids} |
| G01J 5/004 | . . {by molten metals} |
| G01J 5/0044 | . {Furnaces, ovens, kilns (G01J 5/0007 , G01J 5/004 take precedence)} |
| G01J 2005/0048 | . {Calibrating; Correcting} |
| G01J 2005/0051 | . . {Methods for correcting for emissivity} |
| G01J 2005/0055 | . . {Atmospheric correction} |
| G01J 2005/0059 | . . {Correcting for reflection of the emitter radiation} |
| G01J 2005/0062 | . . {Linearising circuits} |
| G01J 5/0066 | . {for hot spots detection} |
| G01J 5/007 | . {for earth observation} |
| G01J 2005/0074 | . {having separate detection of emissivity} |
| G01J 2005/0077 | . {Imaging} |
| G01J 2005/0081 | . {Thermography} |
| G01J 2005/0085 | . . {Temperature profile} |
| G01J 5/0088 | . {in turbines} |
| G01J 2005/0092 | . {Temperature by averaging, e.g. by scan (scan intended for space- resolved determination G01J 2005/0081)} |
| G01J 5/0096 | . {for measuring wires, electrical contacts or electronic systems} |
| G01J 5/02 | . Details |
| G01J 5/0205 | . . {Mechanical elements; Supports for optical elements} |

- G01J 5/021 . . {Probe covers for thermometers, e.g. tympanic thermometers; Containers for probe covers; Disposable probes}
- G01J 5/0215 . . {Compact construction}
- G01J 5/022 . . . {Monolithic}
- G01J 5/0225 . . {Shape of the cavity itself or of elements contained in or suspended over the cavity}
- G01J 5/023 . . . {Particular leg structure or construction or shape; Nanotubes}
- G01J 5/0235 . . . {Spacers, e.g. for avoidance of stiction}
- G01J 5/024 . . . {Special manufacturing steps or sacrificial layers or layer structures}
- G01J 5/0245 . . . {for performing thermal shunt}
- G01J 5/025 . . {Interfacing a pyrometer to an external device or network; User interface}
- G01J 5/0255 . . {Sample holders for pyrometry; Cleaning of sample ([using a gas purge G01J 5/029](#))}
- G01J 5/026 . . {Control of working procedures of a pyrometer, other than calibration ([calibration G01J 2005/0048 and G01J 5/522](#)); Detecting failures in the functioning of a pyrometer; Bandwidth calculation; Gain control; Security control}
- G01J 5/0265 . . {Handheld, portable ([ear thermometers G01J 5/049](#))}
- G01J 5/027 . . {making use of sensor-related data, e.g. for identification of sensor parts or optical elements}
- G01J 5/0275 . . {Control or determination of height or distance or angle information for sensors or receivers}
- G01J 5/028 . . {using a charging unit or battery}
- G01J 5/0285 . . {Constructional arrangements for compensating for fluctuations caused by humidity, pressure or electromagnetic waves; Controlling the atmosphere inside a pyrometer ([G01J 5/029 takes precedence](#))}
- G01J 5/029 . . {using a gas purge}
- G01J 5/0295 . . {Nulling devices or absolute detection}
- G01J 5/04 . . Casings {Mountings}
- G01J 5/041 . . . {Mountings in enclosures or in a particular environment}
- G01J 5/042 {High-temperature environment ([G01J 5/0007](#), [G01J 5/0044](#), [G01J 5/0088](#) and [G01J 5/004](#) take precedence)}
- G01J 5/043 {Prevention or determination of dust, smog or clogging ([G01J 5/029 takes precedence](#))}
- G01J 5/044 {Environment with strong vibrations or shocks}
- G01J 5/045 {Sealings; Vacuum enclosures; Encapsulated packages; Wafer bonding structures; Getter arrangements ([getter arrangements per se H01L 23/26 and H01L 21/3221](#))}
- G01J 5/046 . . . {Materials; Selection of thermal materials}
- G01J 5/047 . . . {Mobile mounting; Scanning arrangements}
- G01J 5/048 . . . {Protective parts}
- G01J 5/049 . . . {Casings for tympanic thermometers}
- G01J 5/06 . . Arrangements for eliminating effects of disturbing radiation

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| G01J 5/061 | . . . | {using cooling or thermostating of parts of the apparatus (cooling techniques in general F17C, F25J)} |
| G01J 2005/062 | | {Peltier} |
| G01J 2005/063 | | {Heating; Thermostating} |
| G01J 2005/065 | . . . | {by shielding} |
| G01J 2005/066 | . . . | {Differential arrangement, i.e. sensitive/not sensitive} |
| G01J 2005/067 | . . . | {Compensating for environment parameters} |
| G01J 2005/068 | | {Ambient temperature sensor; Housing temperature sensor} |
| G01J 5/08 | . . | Optical features {(optical-mechanical scanning H04N 5/33, G02B 26/10)} |
| G01J 5/0803 | . . . | {Optical elements not provided otherwise, e.g. optical manifolds, gratings, holograms, cubic beamsplitters, prisms, particular coatings} |
| G01J 5/0806 | | {using focussing or collimating elements, e.g. lenses or mirrors} |
| G01J 5/0809 | | {using plane or convex mirrors, parallel phase plates or particular reflectors} |
| G01J 5/0812 | | {using attenuators} |
| G01J 5/0815 | | {using light concentrators, collectors or condensers} |
| G01J 5/0818 | | {using waveguides, rods or tubes} |
| G01J 5/0821 | | {using optical fibers} |
| G01J 5/0825 | | {using polarizing elements} |
| G01J 5/0828 | | {using notch filters} |
| G01J 5/0831 | | {using masks, e.g. structured apertures, using aperture plates or using spatial light modulators or spatial filters, e.g. reflective filters} |
| G01J 5/0834 | | {using shutters or modulators} |
| G01J 5/0837 | | {using micro-antennas, e.g. bow-tie} |
| G01J 5/084 | | {Adjustable, slidable} |
| G01J 5/0843 | | {Manually adjustable} |
| G01J 5/0846 | | {using multiple detectors for performing different types of detection, e.g. radiometry and reflectometry channels} |
| G01J 5/085 | | {having a throughhole enabling the optical element to fulfil an additional optical function, e.g. a mirror or grating having a throughhole for a light collecting or light injecting optical fiber} |
| G01J 5/0853 | | {using infrared absorbers other than the usual absorber layers deposited on infrared detectors like bolometers, wherein the heat propagation between the absorber and the detecting element occurs within a solid} |
| G01J 5/0856 | | {Slit arrangements} |
| G01J 5/0859 | | {using a sighting arrangement, or a camera for the same purpose} |
| G01J 5/0862 | | {using optical filters (G01J 5/602, G01J 5/0828 take precedence)} |
| G01J 5/0865 | | {using means for replacing an element by another, e.g. for replacing a filter} |
| G01J 5/0868 | | {using means for illuminating a slit or a surface efficiently, e.g. entrance slit of a pyrometer or entrance face of a fiber} |
| G01J 5/0871 | | {Beam switching arrangements; Photodetection involving different fields of view for a single detector} |

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| G01J 5/0875 | {Windows or their fastening arrangements} |
| G01J 5/0878 | {Diffusers} |
| G01J 5/0881 | . . . {Compact construction} |
| G01J 5/0884 | {Monolithic} |
| G01J 5/0887 | . . . {Integrating cavities mimicking black bodies, wherein the heat propagation between the black body and the measuring element does not occur within a solid; Use of bodies placed inside the fluid stream for measurement of the temperature of gases; Use of the reemission from a surface, e.g. reflective surface; Emissivity enhancement by multiple reflections} |
| G01J 5/089 | . . . {Field-of-view determination; Aiming or pointing of a pyrometer; Adjusting alignment; Encoding angular position; Size of the measuring area; Position tracking} |
| G01J 5/0893 | . . . {Arrangements to attach devices to a pyrometer, i.e. attaching an optical interface; Spatial relative arrangement of optical elements, e.g. folded beam path (G01J 5/049 takes precedence)} |
| G01J 5/0896 | . . . {using a light source, e.g. for illuminating a surface} |
| G01J 5/10 | . using electric radiation detectors |
| G01J 2005/103 | . . {Absorbing heated plate or film and temperature detector} |
| G01J 2005/106 | . . {Arrays} |
| G01J 5/12 | . . using thermoelectric elements, e.g. thermocouples (thermoelectric elements per se H01L 35/00, H01L 37/00) |
| G01J 2005/123 | . . . {Thermoelectric array} |
| G01J 2005/126 | . . . {Thermoelectric black plate and thermocouple} |
| G01J 5/14 | . . . Electrical features |
| G01J 5/16 | Arrangements with respect to the cold junction; Compensating influence of ambient temperature or other variables |
| G01J 5/18 | Special adaptation for indicating or recording (indicating or recording measured values in general G01D) |
| G01J 5/20 | . . using resistors, thermistors, or semi-conductors sensitive to radiation |
| G01J 2005/202 | . . . {Arrays} |
| G01J 2005/204 | {prepared by semiconductor processing, e.g. VLSI} |
| G01J 2005/206 | {on foils} |
| G01J 2005/208 | {superconductive} |
| G01J 5/22 | . . . Electrical features |
| G01J 5/24 | Use of a specially-adapted circuit, e.g. bridge circuit |
| G01J 5/26 | Special adaptation for indicating or recording (indicating or recording measured values in general G01D) |
| G01J 5/28 | . . using photo-emissive, photo-conductive, or photo-voltaic cells |
| G01J 2005/283 | . . . {Array} |
| G01J 2005/286 | {Arrangement of conductor therefor} |
| G01J 5/30 | . . . Electrical features |
| G01J 5/32 | Special adaptation for indicating or recording (indicating or recording measured values in general G01D) |

- G01J 5/34 . . . using capacitors {e.g. pyroelectric elements}
- G01J 2005/345 . . . {Arrays}
- G01J 5/36 . . . using ionisation of gases
- G01J 5/38 . . . using extension or expansion of solids or fluids
- G01J 5/40 . . . using bimetallic elements
- G01J 5/42 . . . using Golay cells
- G01J 2005/425 . . . {Micro-array}
- G01J 5/44 . . . using change of resonant frequency, e.g. of piezo-electric crystal
- G01J 5/46 . . . using radiation pressure or radiometer effect
- G01J 5/48 . . . using wholly visual means
- G01J 5/50 . . . using techniques specified in the subgroups below
- G01J 5/505 . . . {using photographic recording}
- G01J 5/52 . . . using comparison with reference sources, e.g. disappearing-filament pyrometer
- G01J 5/522 . . . {Reference sources, e.g. standard lamps; Black bodies}
- G01J 5/524 . . . {using a reference heater of the emissive surface type, e.g. for selectively absorbing materials}
- G01J 2005/526 . . . {Periodic insertion of emissive surface}
- G01J 2005/528 . . . {Periodic comparison}
- G01J 5/54 . . . Optical features
- G01J 5/56 . . . Electrical features
- G01J 5/58 . . . using absorption; using polarisation; using extinction effect
- G01J 2005/583 . . . {Interferences, i.e. fringe variation with temperature}
- G01J 2005/586 . . . {Polarisation}
- G01J 5/60 . . . using determination of colour temperature {Pyrometry using two wavelengths filtering; using selective, monochromatic or bandpass filtering; using spectral scanning}
- G01J 5/601 . . . {using spectral scanning}
- G01J 5/602 . . . {using selective, monochromatic or bandpass filtering}
- G01J 2005/604 . . . {bandpass filtered}
- G01J 5/605 . . . {using visual determination}
- G01J 2005/607 . . . {on two separate detectors}
- G01J 2005/608 . . . {Colour temperature of lamps, sources or the like}
- G01J 5/62 . . . using means for chopping the light {Compensation for background radiation of chopper element}
- G01J 2005/623 . . . {Compensating radiation of chopper}
- G01J 2005/626 . . . {Electrooptic chopper}

G01J 7/00 Measuring velocity of light

G01J 9/00 Measuring optical phase difference (devices or arrangements for controlling the phase of light beams [G02F 1/01](#)); **Determining degree of coherence**; **Measuring optical wavelength** (spectrometry [G01J 3/00](#))

- G01J 2009/002 . {Wavefront phase distribution}
- G01J 2009/004 . {Mode pattern}
- G01J 2009/006 . {using pulses for physical measurements}
- G01J 2009/008 . . {using decay time in cavity}
- G01J 9/02 . by interferometric methods (using interferometers for measuring optically the linear dimensions of objects [G01B 9/02](#))
- G01J 2009/0203 . . {Phased array of beams}
- G01J 2009/0207 . . {Double frequency, e.g. Zeeman}
- G01J 2009/0211 . . {for measuring coherence}
- G01J 9/0215 . . {by shearing interferometric methods}
- G01J 2009/0219 . . . {using two or more gratings}
- G01J 2009/0223 . . {Common path interferometry; Point diffraction interferometry}
- G01J 2009/0226 . . {Fibres}
- G01J 2009/023 . . . {of the integrated optical type}
- G01J 2009/0234 . . {Measurement of the fringe pattern}
- G01J 2009/0238 . . . {the pattern being processed optically, e.g. by Fourier transformation}
- G01J 2009/0242 . . {Compensator}
- G01J 9/0246 . . {Measuring optical wavelength}
- G01J 2009/0249 . . {with modulation}
- G01J 2009/0253 . . . {of wavelength}
- G01J 2009/0257 . . {multiple, e.g. Fabry Perot interferometer}
- G01J 2009/0261 . . {polarised}
- G01J 2009/0265 . . . {with phase modulation}
- G01J 2009/0269 . . {Microscope type}
- G01J 2009/0273 . . {Ring interferometer}
- G01J 2009/0276 . . {Stellar interferometer, e.g. Sagnac}
- G01J 2009/028 . . {Types}
- G01J 2009/0284 . . . {Michelson}
- G01J 2009/0288 . . . {Machzehnder}
- G01J 2009/0292 . . . {Fizeau; Wedge}
- G01J 2009/0296 . . . {achromatic}
- G01J 9/04 . by beating two waves of a same source but of different frequency and measuring the phase shift of the lower frequency obtained
- G01J 11/00** **Measuring the characteristics of individual optical pulses or of optical pulse trains**
- G01J 2011/005 . {Streak cameras}