

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}

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

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}

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}

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}

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}

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

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}

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}