

**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](#) )

**NOTE**

This subclass covers the detection of the presence or absence of infra-red, visible, or ultra-violet light, not otherwise provided for.

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 ( <a href="#">cavities G01J 2001/0481</a> ) }
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 <a href="#">G02F 1/11</a> , <a href="#">G02F 1/33</a> ) }
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 ( <a href="#">G01J 3/18</a> , <a href="#">G01J 3/26</a> 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 data 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 ( <a href="#">G01J 3/42</a> , <a href="#">G01J 3/44</a> 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 ( <a href="#">G01J 3/42</a> , <a href="#">G01J 3/44</a> take precedence)
G01J 3/42	..	Absorption spectrometry; Double beam spectrometry; Flicker spectrometry; Reflection spectrometry ( <a href="#">beam switching arrangements G01J 3/08</a> )
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 <a href="#">G01N 15/0205</a> ; optical velocimetry of particles <a href="#">G01P 5/00D</a> ) }
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 ( <a href="#">G01J 3/4531</a> takes precedence) }
G01J 2003/4534	....	Interferometer on illuminating side
G01J 3/4535	....	{Devices with moving mirror ( <a href="#">G01J 3/4532</a> takes precedence) }
G01J 3/4537	....	{Devices with refractive scan }
G01J 2003/4538	....	Special processing
G01J 3/457	..	Correlation spectrometry, e.g. of the intensity ( <a href="#">G01J 3/453</a> takes precedence)
G01J 3/46	.	Measurement of colour; Colour measuring devices, e.g. colorimeters ( <a href="#">measuring colour temperature G01J 5/60</a> )
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 [A61B5](#)) }
- 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 ( <a href="#">G01J 5/029</a> 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 ( <a href="#">G01J 5/0007</a> , <a href="#">G01J 5/0044</a> , <a href="#">G01J 5/0088</a> and <a href="#">G01J 5/004</a> take precedence) }
G01J 5/043	....	{ Prevention or determination of dust, smog or clogging ( <a href="#">G01J 5/029</a> 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 <a href="#">H01L 23/26</a> and <a href="#">H01L 31/0203B</a> ) }
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 <a href="#">F17C</a> , <a href="#">F25J</a> ) }
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 <a href="#">H04N 5/33</a> , <a href="#">G02B 26/10</a> }
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 ( <a href="#">G01J 5/602</a> , <a href="#">G01J 5/0828</a> 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 ( <a href="#">G01J 5/049</a> 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 ( <a href="#">thermoelectric elements per se H01L 35/00</a> , <a href="#">H01L 37/00</a> )
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 ( <a href="#">indicating or recording measured values in general G01D</a> )
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 <a href="#">G01D</a> )
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 <a href="#">G01D</a> )
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, soruces 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 <a href="#">G01B 9/02</a> )
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