SECTION G — PHYSICS

G02 OPTICS

G02B OPTICAL ELEMENTS, SYSTEMS OR APPARATUS [1, 7]

Note(s) [7]

1. Attention is drawn to the Notes following the titles of class B81 and subclass B81B relating to "microstructural devices" and "microstructural systems"
2. This subclass does not cover:
   devices or arrangements, the optical operation of which is modified by changing the optical properties of the medium of the devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light, frequency-changing, non-linear optics, optical logic elements;
   optical analogue/digital converters;

which are covered by subclass G02F.

Subclass index

1/00 Optical elements characterised by the material of which they are made; Optical coatings for optical elements [1, 2006.01]

1/02 • made of crystals, e.g. rock-salt, semiconductors (G02B 1/08 takes precedence) **[1, 2006.01]**

1/04 • made of organic materials, e.g. plastics (G02B 1/08 takes precedence) **[1, 2006.01]**

1/06 • made of fluids in transparent cells **[1, 2006.01]**

1/08 • made of polarising materials **[1, 2006.01]**

1/10 • Optical coatings produced by application to, or surface treatment of, optical elements (G02B 1/08 takes precedence) **[1, 2006.01, 2015.01]**

1/11 • • Anti-reflection coatings **[6, 2006.01, 2015.01]**

1/111 • • • using layers comprising organic materials **[2015.01]**

1/113 • • • using inorganic layer materials only **[2015.01]**

1/115 • • • • Multilayers **[2015.01]**

1/116 • • • • • including electrically conducting layers **[2015.01]**

Note(s) [2015.01]

When electrically conducting layers also exhibit an anti-static effect, classification is also made in group G02B 1/16.

1/118 • • • having sub-optical wavelength surface structures designed to provide an enhanced transmittance, e.g. moth-eye structures **[2015.01]**

1/12 • • by surface treatment, e.g. by irradiation **[1, 2006.01]**

1/14 • • Protective coatings, e.g. hard coatings **[2015.01]**

1/16 • • having an anti-static effect, e.g. electrically conducting coatings **[2015.01]**

1/18 • • Coatings for keeping optical surfaces clean, e.g. hydrophobic or photo-catalytic films (G02B 1/16 takes precedence) **[2015.01]**

3/00 Simple or compound lenses [1, 2006.01]

3/02 • with non-spherical faces (G02B 3/10 takes precedence) **[1, 2006.01]**

3/04 • • with continuous faces that are rotationally symmetrical but deviate from a true sphere **[1, 2006.01]**
3/06 • • with cylindrical or toric faces **[1, 2006.01]**
3/08 • • with discontinuous faces, e.g. Fresnel lens **[1, 2006.01]**
3/10 • Bifocal lenses; Multifocal lenses **[1, 2006.01]**
3/12 • Fluid-filled or evacuated lenses **[1, 2006.01]**
3/14 • • of variable focal length **[1, 2006.01]**

5/00 Optical elements other than lenses (light guides G02B 6/00; optical logic elements G02F 3/00) **[1, 4, 2006.01]**
5/02 • Diffusing elements; Afocal elements **[1, 2006.01]**
5/04 • Prisms **[1, 2006.01]**
5/06 • • Fluid-filled or evacuated prisms **[1, 2006.01]**
5/08 • Mirrors **[1, 2006.01]**
5/09 • • Multifaceted or polygonal mirrors **[6, 2006.01]**
5/10 • • with curved faces **[1, 2006.01]**
5/12 • Reflex reflectors **[1, 2006.01]**
5/122 • • cube corner, trihedral or triple reflector type **[2, 2006.01]**
5/124 • • • plural reflecting elements forming part of a unitary plate or sheet **[2, 2006.01]**
5/126 • • including curved refracting surface **[2, 2006.01]**
5/128 • • • transparent spheres being embedded in matrix **[2, 2006.01]**
5/13 • • • plural curved refracting elements forming part of a unitary body **[2, 2006.01]**
5/132 • • • with individual reflector mounting means **[2, 2006.01]**
5/134 • • • • including a threaded mounting member **[2, 2006.01]**
5/136 • • plural reflecting elements forming part of a unitary body (G02B 5/124 takes precedence) **[2, 2006.01]**
5/18 • Diffracting gratings **[1, 2006.01]**
5/20 • Filters (polarising elements G02B 5/30) **[1, 2006.01]**
5/22 • • Absorbing filters **[1, 2006.01]**
5/23 • • • Photochromic filters **[2, 2006.01]**
5/24 • • • Liquid filters (G02B 5/23 takes precedence) **[1, 2, 2006.01]**
5/26 • • Reflecting filters (G02B 5/28 takes precedence) **[1, 2006.01]**
5/28 • • Interference filters **[1, 2006.01]**
5/30 • Polarising elements (light-modulating devices with active elements G02F 1/00) **[1, 2006.01]**
5/32 • Holograms used as optical elements **[2, 2006.01]**

6/00 Light guides; Structural details of arrangements comprising light guides and other optical elements, e.g. couplings [4, 6, 2006.01]
6/02 • Optical fibres with cladding **[4, 2006.01]**
6/024 • • with polarisation-maintaining properties **[2006.01]**
6/028 • • with core or cladding having graded refractive index **[2006.01]**
6/032 • • with non-solid core or cladding **[2006.01]**
6/036 • • core or cladding comprising multiple layers **[2006.01]**
6/04 • formed by bundles of fibres (G02B 6/24 takes precedence) **[4, 2006.01]**
6/06 • • the relative position of the fibres being the same at both ends, e.g. for transporting images **[4, 2006.01]**
6/08 • • • with fibre bundle in form of plate **[4, 2006.01]**
6/10 • of the optical waveguide type (G02B 6/02, G02B 6/24 take precedence; devices or arrangements for the control of light by electric, magnetic, electro-magnetic or acoustic means G02F 1/00; transferring the modulation of modulated light G02F 2/00; optical logic elements G02F 3/00; optical analogue/digital converters G02F 7/00) **[4, 2006.01]**
6/12 • • of the integrated circuit kind (electric integrated circuits H10B, H10D 84/00-H10D 89/00, H10F 19/00, H10F 39/00, H10H 29/00, H10K 19/00, H10K 39/00, H10K 59/00, H10N 19/00, H10N 39/00, H10N 59/00, H10N 69/00, H10N 79/00, H10N 89/00) **[4, 2006.01]**
6/122 • • • Basic optical elements, e.g. light-guiding paths **[6, 2006.01]**
6/124 • • • • Geodesic lenses or integrated gratings **[6, 2006.01]**
6/125 • • • • Bends, branchings or intersections **[6, 2006.01]**
6/126 • • • using polarisation effects **[6, 2006.01]**
6/13 • • • Integrated optical circuits characterised by the manufacturing method **[6, 2006.01]**
6/132 • • • • by deposition of thin films **[6, 2006.01]**
6/134 • • • • by substitution by dopant atoms **[6, 2006.01]**
6/136 • • • • by etching **[6, 2006.01]**
6/138 • • • • by using polymerisation **[6, 2006.01]**
6/14 • • Mode converters **[4, 2006.01]**
6/24 • Coupling light guides **[4, 5, 2006.01]**
6/245 • • Removing protective coverings of light guides before coupling **[5, 2006.01]**
6/25 • • Preparing the ends of light guides for coupling, e.g. cutting **[5, 2006.01]**
6/255 • • Splicing of light guides, e.g. by fusion or bonding **[5, 2006.01]**
6/26 • • Optical coupling means (G02B 6/36, G02B 6/42 take precedence) **[4, 2006.01]**
6/27 • • • with polarisation selective and adjusting means **[6, 2006.01]**
6/28 • • • having data bus means, i.e. plural waveguides interconnected and providing an inherently bidirectional system by mixing and splitting signals **[4, 2006.01]**
6/287 • • • • Structuring of light guides to shape optical elements with heat application (G02B 6/255 takes precedence) **[6, 2006.01]**
6/293 • • • • with wavelength selective means **[6, 2006.01]**
6/30 • • • for use between fibre and thin-film device **[4, 2006.01]**
6/32 • • • having lens focusing means **[4, 2006.01]**
6/34 • • • utilising prism or grating **[4, 2006.01]**
6/35 • • • having switching means (by changing the optical properties of the medium G02F 1/00) **[6, 2006.01]**
6/36 • • Mechanical coupling means (G02B 6/255, G02B 6/42 take precedence) **[4, 5, 2006.01]**
6/38 • • • having fibre to fibre mating means **[4, 2006.01]**
6/40 • • • having fibre bundle mating means **[4, 2006.01]**
6/42 • • Coupling light guides with opto-electronic elements **[4, 2006.01]**
6/43 • • • Arrangements comprising a plurality of opto-electronic elements and associated optical interconnections **[6, 2006.01]**

6/44 • Mechanical structures for providing tensile strength and external protection for fibres, e.g. optical transmission cables (cables incorporating electric conductors and optical fibres H01B 11/22) **[4, 2006.01]**

6/46 • Processes or apparatus adapted for installing optical fibres or optical cables (installation of cables containing electric conductors and optical fibres H02G) **[6, 2006.01]**

6/48 • • Overhead installation **[6, 2006.01]**

6/50 • • Underground or underwater installation; Installation through tubing, conduits or ducts **[6, 2006.01]**

6/52 • • • using fluid, e.g. air **[6, 2006.01]**

6/54 • • • using mechanical means, e.g. pulling or pushing devices **[6, 2006.01]**

7/00 Mountings, adjusting means, or light-tight connections, for optical elements [1, 2006.01, 2021.01]

7/02 • for lenses **[1, 2006.01, 2021.01]**

7/04 • • with mechanism for focusing or varying magnification **[1, 2, 2006.01, 2021.01]**

7/06 • • • Focusing binocular pairs **[1, 2006.01, 2021.01]**

7/08 • • • adapted to co-operate with a remote control mechanism **[1, 2006.01, 2021.01]**

7/09 • • • adapted for automatic focusing or varying magnification **[5, 2006.01, 2021.01]**

7/10 • • • by relative axial movement of several lenses, e.g. of varifocal objective lens **[1, 2006.01, 2021.01]**

7/105 • • • • with movable lens means specially adapted for focusing at close distances **[4, 2006.01, 2021.01]**

7/12 • • Adjusting pupillary distance of binocular pairs **[1, 2006.01, 2021.01]**

7/14 • • adapted to interchange lenses **[1, 2006.01, 2021.01]**

7/16 • • • Rotatable turrets **[1, 2006.01, 2021.01]**

7/18 • for prisms; for mirrors **[1, 2006.01, 2021.01]**

7/182 • • for mirrors **[5, 2006.01, 2021.01]**

7/183 • • • specially adapted for very large mirrors, e.g. for astronomy (G02B 7/185, G02B 7/192, G02B 7/198 take precedence) **[6, 2006.01, 2021.01]**

7/185 • • • with means for adjusting the shape of the mirror surface **[5, 2006.01, 2021.01]**

7/188 • • • • Membrane mirrors **[5, 2006.01, 2021.01]**

7/192 • • • with means for minimising internal mirror stresses **[5, 2006.01, 2021.01]**

7/195 • • • • Fluid-cooled mirrors **[5, 2006.01, 2021.01]**

7/198 • • • with means for adjusting the mirror relative to its support **[5, 2006.01, 2021.01]**

7/20 • Light-tight connections for movable optical elements **[1, 2006.01, 2021.01]**

7/22 • • Extensible connections, e.g. bellows **[1, 2006.01, 2021.01]**

7/24 • • Pivoted connections **[1, 2006.01, 2021.01]**

7/28 • Systems for automatic generation of focusing signals **[5, 2006.01, 2021.01]**

7/30 • • using parallactic triangle with a base line **[5, 2006.01, 2021.01]**

7/32 • • • using active means, e.g. light emitter **[5, 2006.01, 2021.01]**

7/34 • • using different areas in a pupil plane **[5, 2006.01, 2021.01]**

7/36 • • using image sharpness techniques **[5, 2006.01, 2021.01]**

7/38 • • • measured at different points on the optical axis **[5, 2006.01, 2021.01]**

7/40 • • using time delay of the reflected waves, e.g. of ultrasonic waves **[5, 2006.01, 2021.01]**

9/00 Optical objectives characterised both by the number of the components and their arrangements according to their sign, i.e. + or – (G02B 13/00, G02B 15/00 take precedence) **[1, 2006.01]**

Note(s)

In this group, a component is deemed to be a simple lens or a compound lens or a divided lens equivalent to a simple or to a compound lens.

9/02 • having one + component only (simple lenses G02B 3/00) **[1, 2006.01]**

9/04 • having two components only **[1, 2006.01]**

9/06 • • two + components **[1, 2006.01]**

9/08 • • • arranged about a stop **[1, 2006.01]**

9/10 • • one + and one – component **[1, 2006.01]**

9/12 • having three components only **[1, 2006.01]**

9/14 • • arranged + – + **[1, 2006.01]**

9/16 • • • all the components being simple **[1, 2006.01]**

9/18 • • • only one component having a compound lens (G02B 9/30 takes precedence) **[1, 2006.01]**

9/20 • • • • the rear component having the compound **[1, 2006.01]**

9/22 • • • • the middle component having the compound **[1, 2006.01]**

9/24 • • • two of the components having compound lenses (G02B 9/30 takes precedence) **[1, 2006.01]**

9/26 • • • • the front and rear components having compound lenses **[1, 2006.01]**

9/28 • • • • the middle and rear components having compound lenses **[1, 2006.01]**

9/30 • • • the middle component being a – compound meniscus having a + lens **[1, 2006.01]**

9/32 • • • • the + lens being a meniscus **[1, 2006.01]**

9/34 • having four components only **[1, 2006.01]**

9/36 • • arranged + — + **[1, 2006.01]**

Note(s)

In this group, the first place priority rule is applied.

9/38 • • • both – components being meniscus **[1, 2006.01]**

9/40 • • • • one – component being compound **[1, 2006.01]**

9/42 • • • • two – components being compound **[1, 2006.01]**

9/44 • • • both – components being biconcave **[1, 2006.01]**

9/46 • • • • one – component being compound **[1, 2006.01]**

9/48 • • • • two – components being compound **[1, 2006.01]**

9/50 • • • both + components being meniscus **[1, 2006.01]**

9/52 • • • the rear + component being compound **[1, 2006.01]**

9/54 • • • the front + component being compound **[1, 2006.01]**

9/56 • • • all components being simple lenses **[1, 2006.01]**

9/58 • • arranged – + + – **[1, 2006.01]**

9/60 • having five components only **[1, 2006.01]**

9/62 • having six components only **[1, 2006.01]**
9/64 • having more than six components **[1, 2006.01]**

11/00 Optical objectives characterised by the total number of simple and compound lenses forming the objective and their arrangement (G02B 9/00 takes precedence; having only one simple lens G02B 3/00) **[1, 2006.01]**

Note(s)

In groups G02B 11/02-G02B 11/34, lenses in broken contact are counted separately. Simple lenses are denoted by L, compound lenses by C, and the front lens is mentioned first.

11/02 • having two lenses only **[1, 2006.01]**
11/04 • • arranged C C **[1, 2006.01]**
11/06 • having three lenses only **[1, 2006.01]**
11/08 • • arranged L L L **[1, 2006.01]**
11/10 • • arranged L C L **[1, 2006.01]**
11/12 • • arranged L L C **[1, 2006.01]**
11/14 • • arranged C L C **[1, 2006.01]**
11/16 • • arranged C C L **[1, 2006.01]**
11/18 • • arranged C C C **[1, 2006.01]**
11/20 • having four lenses only **[1, 2006.01]**
11/22 • • arranged L L L L **[1, 2006.01]**
11/24 • • arranged C L L C **[1, 2006.01]**
11/26 • • arranged L C C L **[1, 2006.01]**
11/28 • • arranged C C C C **[1, 2006.01]**
11/30 • having five lenses only **[1, 2006.01]**
11/32 • having six lenses only **[1, 2006.01]**
11/34 • having more than six lenses **[1, 2006.01]**

13/00 Optical objectives specially designed for the purposes specified below (with variable magnification G02B 15/00) **[1, 2006.01]**

13/02 • Telephoto objectives, i.e. systems of the type + – in which the distance from the front vertex to the image plane is less than the equivalent focal length **[1, 2006.01]**
13/04 • Reversed telephoto objectives **[1, 2006.01]**
13/06 • Panoramic objectives; So-called "sky lenses" **[1, 2006.01]**
13/08 • Anamorphotic objectives **[1, 2006.01]**
13/10 • • involving prisms (G02B 13/12 takes precedence) **[1, 2006.01]**
13/12 • • with variable magnification **[1, 2006.01]**
13/14 • for use with infrared or ultraviolet radiation (G02B 13/16 takes precedence) **[1, 2006.01]**
13/16 • for use in conjunction with image converters or intensifiers **[1, 2006.01]**
13/18 • with lenses having one or more non-spherical faces, e.g. for reducing geometrical aberration **[1, 2006.01]**
13/20 • Soft-focus objectives **[1, 2006.01]**
13/22 • Telecentric objectives or lens systems **[1, 2006.01]**
13/24 • for reproducing or copying at short object distances **[1, 2006.01]**
13/26 • • for reproducing with unit magnification **[3, 2006.01]**

15/00 Optical objectives with means for varying the magnification (anamorphotic objectives G02B 13/08) **[1, 2006.01]**

15/02 • by changing, adding, or subtracting a part of the objective, e.g. convertible objective **[1, 2006.01]**
15/04 • • by changing a part **[1, 2006.01]**
15/06 • • • by changing the front part **[1, 2006.01]**
15/08 • • • by changing the rear part **[1, 2006.01]**
15/10 • • by adding a part, e.g. close-up attachment **[1, 2006.01]**
15/12 • • • by adding telescopic attachments (G02B 15/14 takes precedence) **[1, 2006.01]**
15/14 • by axial movement of one or more lenses or groups of lenses relative to the image plane for continuously varying the equivalent focal length of the objective **[1, 4, 2006.01]**
15/15 • • compensation by means of only one movement or by means of only linearly related movements, e.g. optical compensation **[4, 2006.01]**
15/16 • • with interdependent non-linearly related movements between one lens or lens group, and another lens or lens group (G02B 15/22 takes precedence) **[1, 4, 2006.01]**
15/163 • • • having a first movable lens or lens group and a second movable lens or lens group, both in front of a fixed lens or lens group (G02B 15/177 takes precedence) **[4, 2006.01]**
15/167 • • • • having an additional fixed front lens or group of lenses **[4, 2006.01]**
15/17 • • • • • arranged + — **[4, 2006.01]**
15/173 • • • • • arranged + – + **[4, 2006.01]**
15/177 • • • having a negative front lens or group of lenses **[4, 2006.01]**
15/20 • • • having an additional movable lens or lens group for varying the objective focal length **[4, 2006.01]**
15/22 • • with movable lens means specially adapted for focusing at close distances **[4, 2006.01]**
15/24 • • • having a front fixed lens or lens group and two movable lenses or lens groups in front of a fixed lens or lens group **[4, 2006.01]**
15/26 • • • • arranged + — **[4, 2006.01]**
15/28 • • • • arranged + – + **[4, 2006.01]**

17/00 Systems with reflecting surfaces, with or without refracting elements [1, 6, 2006.01]

17/02 • Catoptric systems, e.g. image erecting and reversing system **[1, 2006.01]**
17/04 • • using prisms only **[1, 2006.01]**
17/06 • • using mirrors only **[1, 2006.01]**
17/08 • Catadioptric systems **[1, 2006.01]**

19/00 Condensers (for microscopes G02B 21/08) **[1, 2006.01]**

21/00 Microscopes [1, 7, 2006.01]

21/02 • Objectives **[1, 2006.01]**
21/04 • • involving mirrors **[1, 2006.01]**
21/06 • Means for illuminating specimen **[1, 2006.01]**
21/08 • • Condensers **[1, 2006.01]**
21/10 • • • affording dark-field illumination (G02B 21/14 takes precedence) **[1, 2006.01]**
21/12 • • • affording bright-field illumination (G02B 21/14 takes precedence) **[1, 2006.01]**
21/14 • • • affording illumination for phase-contrast observation **[1, 2006.01]**
21/16 • adapted for ultraviolet illumination **[1, 2006.01]**
21/18 • Arrangements with more than one light-path, e.g. for comparing two specimens **[1, 2006.01]**
21/20 • • Binocular arrangements **[1, 2006.01]**
21/22 • • • Stereoscopic arrangements **[1, 2006.01]**
21/24 • Base structure **[1, 2006.01]**
21/26 • • Stages; Adjusting means therefor **[1, 2006.01]**
21/28 • • with cooling device **[1, 2006.01]**
21/30 • • with heating device **[1, 2006.01]**

21/32 • Micromanipulators structurally combined with microscopes **[1, 2006.01]**
21/33 • Immersion oils **[6, 2006.01]**
21/34 • Microscope slides, e.g. mounting specimens on microscope slides **[1, 2006.01]**
21/36 • arranged for photographic purposes or projection purposes (G02B 21/18 takes precedence) **[1, 2006.01]**

23/00 Telescopes, e.g. binoculars; Periscopes; Instruments for viewing the inside of hollow bodies; Viewfinders; Optical aiming or sighting devices [1, 4, 2006.01]
23/02 • involving prisms or mirrors (G02B 23/14 takes precedence) **[1, 2006.01]**
23/04 • • for the purpose of beam splitting or combining, e.g. fitted with eyepieces for more than one observer (G02B 23/10 takes precedence) **[1, 2006.01]**
23/06 • • having a focusing action, e.g. parabolic mirror **[1, 2006.01]**
23/08 • • Periscopes **[1, 2006.01]**
23/10 • • reflecting into the field of view additional indications, e.g. from collimator **[1, 2006.01]**
23/12 • with means for image conversion or intensification **[1, 2006.01]**
23/14 • Viewfinders (for photographic apparatus G03B 13/02) **[1, 2006.01]**
23/16 • Housings; Caps; Mountings; Supports, e.g. with counterweight **[1, 2006.01]**
23/18 • • for binocular arrangements **[1, 2006.01]**
23/20 • • Collapsible housings (G02B 23/18 takes precedence) **[1, 2006.01]**
23/22 • • Underwater equipments, e.g. for submarine periscope **[1, 2006.01]**
23/24 • Instruments for viewing the inside of hollow bodies, e.g. fibrescopes **[4, 2006.01]**
23/26 • • using light guides **[4, 2006.01]**

25/00 Eyepieces; Magnifying glasses [1, 2006.01]
25/02 • with means for illuminating object viewed **[1, 2006.01]**
25/04 • affording a wide-angle view, e.g. through a spy-hole **[1, 2006.01]**

26/00 Optical devices or arrangements for the control of light using movable or deformable optical elements (control of light by modification of the optical properties of the media of the elements involved therein G02F 1/00) **[4, 2006.01]**
26/02 • for controlling the intensity of light **[4, 2006.01]**
26/04 • • by periodically varying the intensity of light, e.g. using choppers **[4, 2006.01]**
26/06 • for controlling the phase of light (G02B 26/08 takes precedence) **[4, 2006.01]**
26/08 • for controlling the direction of light (in light guides G02B 6/35) **[4, 2006.01]**
26/10 • • Scanning systems **[4, 2006.01]**
26/12 • • • using multifaceted mirrors **[6, 2006.01]**

27/00 Optical systems or apparatus not provided for by any of the groups G02B 1/00-G02B 26/00, G02B 30/00 [1, 2006.01]
27/01 • Head-up displays **[6, 2006.01]**
27/02 • Viewing or reading apparatus (stereoscopic systems G02B 30/00) **[1, 2006.01]**
27/04 • • having collapsible parts **[1, 2006.01]**
27/06 • • with moving-picture effect **[1, 2006.01]**
27/08 • • Kaleidoscopes **[1, 2006.01]**
27/09 • Beam shaping, e.g. changing the cross-sectioned area, not otherwise provided for **[6, 2006.01]**
27/10 • Beam splitting or combining systems (mixing and splitting light signals using optical waveguides G02B 6/28; polarising systems G02B 27/28) **[1, 4, 2006.01]**
27/12 • • operating by refraction only **[1, 2006.01]**
27/14 • • operating by reflection only **[1, 2006.01]**
27/16 • • used as aids for focusing **[1, 2006.01]**
27/18 • for optical projection, e.g. combination of mirror and condenser and objective **[1, 2006.01]**
27/20 • • for imaging minute objects, e.g. light-pointer **[1, 2006.01]**
27/28 • for polarising (used in stereoscopes G02B 30/25) **[1, 2006.01]**
27/30 • Collimators **[1, 2006.01]**
27/32 • Fiducial marks or measuring scales within the optical system **[1, 2006.01]**
27/34 • • illuminated **[1, 2006.01]**
27/36 • • adjustable **[1, 2006.01]**
27/40 • Optical focusing aids **[1, 2006.01]**
27/42 • Diffraction optics (G02B 27/60 takes precedence) **[3, 2006.01]**
27/44 • • Grating systems; Zone plate systems (G02B 27/46 takes precedence) **[3, 2006.01]**
27/46 • • Systems using spatial filters **[3, 2006.01]**

Note(s) [3]

In this group, the filter may be in any plane, e.g. the image or the Fourier transfer plane.

27/48 • Laser speckle optics **[3, 2006.01]**
27/50 • Optics for phase object visualisation (in microscopes G02B 21/14) **[3, 2006.01]**
27/52 • • Phase contrast optics **[3, 2006.01]**
27/54 • • Schlieren-optical systems **[3, 2006.01]**
27/56 • Optics using evanescent waves, i.e. inhomogeneous waves **[3, 2006.01]**
27/58 • Optics for apodization or superresolution; Optical synthetic aperture systems **[3, 2006.01]**
27/60 • Systems using moiré fringes **[3, 2006.01]**
27/62 • Optical apparatus specially adapted for adjusting optical elements during the assembly of optical systems **[3, 2006.01]**
27/64 • Imaging systems using optical elements for stabilisation of the lateral and angular position of the image **[3, 2006.01]**

30/00 Optical systems or apparatus for producing three-dimensional [3D] effects, e.g. stereoscopic images (in microscopes G02B 21/22) **[2020.01]**
30/10 • using integral imaging methods **[2020.01]**
30/20 • by providing first and second parallax images to an observer's left and right eyes **[2020.01]**
30/22 • • of the stereoscopic type **[2020.01]**
30/23 • • • using wavelength separation, e.g. using anaglyph techniques **[2020.01]**
30/24 • • • involving temporal multiplexing, e.g. using sequentially activated left and right shutters **[2020.01]**
30/25 • • • using polarisation techniques **[2020.01]**
30/26 • • of the autostereoscopic type **[2020.01]**
30/27 • • • involving lenticular arrays **[2020.01]**
30/28 • • • • involving active lenticular arrays **[2020.01]**

30/29 • • • • characterised by the geometry of the lenticular array, e.g. slanted arrays, irregular arrays or arrays of varying shape or size **[2020.01]**

30/30 • • • involving parallax barriers **[2020.01]**

30/31 • • • • involving active parallax barriers (involving directional light or back-light sources G02B 30/33) **[2020.01]**

30/32 • • • • characterised by the geometry of the parallax barriers, e.g. staggered barriers, slanted parallax arrays or parallax arrays of varying shape or size **[2020.01]**

30/33 • • • involving directional light or back-light sources **[2020.01]**

30/34 • • Stereoscopes providing a stereoscopic pair of separated images corresponding to parallactically displaced views of the same object, e.g. 3D slide viewers **[2020.01]**

30/35 • • • using reflective optical elements in the optical path between the images and the observer **[2020.01]**

30/36 • • • using refractive optical elements, e.g. prisms, in the optical path between the images and the observer **[2020.01]**

30/37 • • • Collapsible stereoscopes **[2020.01]**

30/40 • giving the observer of a single two-dimensional [2D] image a perception of depth **[2020.01]**

30/50 • the image being built up from image elements distributed over a 3D volume, e.g. voxels **[2020.01]**

30/52 • • the 3D volume being constructed from a stack or sequence of 2D planes, e.g. depth sampling systems **[2020.01]**

30/54 • • the 3D volume being generated by moving a 2D surface, e.g. by vibrating or rotating the 2D surface **[2020.01]**

30/56 • • by projecting aerial or floating images **[2020.01]**

30/60 • involving reflecting prisms and mirrors only **[2020.01]**