CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS
(NOTES omitted)

INSTRUMENTS

G02 OPTICS
(NOTE omitted)

G02F 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, e.g. SWITCHING, GATING, MODULATING OR DEMODULATING; TECHNIQUES OR PROCEDURES FOR THE OPERATION THEREOF; FREQUENCY-CHANGING; NON-LINEAR OPTICS; OPTICAL LOGIC ELEMENTS; OPTICAL ANALOGUE/DIGITAL CONVERTERS

WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

   Subject matter covered by these groups is classified in the following CPC groups:

G02F 1/13357	covered by	G02F 1/1336 and subgroups

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

1/00 **Devices or arrangements for the control of the intensity, colour, phase, polarisation or direction of light arriving from an independent light source, e.g. switching, gating, or modulating; Non-linear optics** (thermometers using change of colour or translucency G01K 11/12; using changes in fluorescence G01K 11/32; light guide devices G02B 6/00; optical devices or arrangements using movable or deformable elements for controlling light independent of the light source G02B 26/00; control of light in general G05D 25/00; visible signalling systems G08B 5/00; indicating arrangements for variable information by selection or combination of individual elements G09F 9/00; control arrangements or circuits for visual indicators other than cathode-ray tubes G09G 3/00; control of light sources H01S 3/10, H05B 33/08, H05B 35/00 – H05B 47/00 {; photochromic filters G02B 5/23; optical logic elements G02F 3/00})

NOTE

This group covers only :

- devices or arrangements, e.g. cells, the optical operation of which is modified by changing the optical properties of the medium of the devices or arrangements by the influence or control of physical parameters, e.g. electric fields, electric current, magnetic fields, sound or mechanical vibrations, stress or thermal effects;
- devices or arrangements in which the electric or magnetic field component of the light beams influences the optical properties of the medium, i.e. non-linear optics;
- control of light by electromagnetic waves, e.g. radio waves, or by electrons or other elementary particles.

1/0009 . {Materials therefor}

NOTE

G02F 1/0009 and subgroups contain mostly non-patent literature

1/0018 . . {Electro-optical materials}

1/0027 . . . {with ferro-electric properties (domain inversion in ferro-electric materials G02F 1/3558; ferro-electric materials in general H01G 7/02)}

1/0036 . . {Magneto-optical materials (magnetic materials in general H01F)}

1/0045 . . {Liquid crystals as far as the physical properties are concerned (chemical composition and properties of liquid crystals C09K 19/00)}

1/0054 . . {Structure, phase transitions, NMR, ESR, Moessbauer spectra}

1/0063 . . {Optical properties, e.g. absorption, reflection, non-linear effects, birefringence (non linear optics in general G02F 1/35)}

1/0072 . . {Mechanical, acoustic, electro-elastic, magneto-elastic properties}

1/0081 . . {Electric or magnetic properties}

1/009 . . {Thermal properties (thermometers using change of colour or translucency G01K 11/12; radiation pyrometry G01J 5/00)}

1/01 . for the control of the intensity, phase, polarisation or colour (G02F 1/29, G02F 1/35 take precedence)

WARNING

Group G02F 1/01 is impacted by reclassification into groups G02F 1/165, G02F 1/166, G02F 1/1673, and G02F 1/169.

All groups listed in this Warning should be considered in order to perform a complete search.

1/0102 . . {Constructional details (G02F 1/1306, G02F 1/133 take precedence)}

1/0105 . . . {Illumination devices (for liquid crystal cells **G02F1/13357**; for display devices for electronic time pieces G04G 9/0041)}

1/0107 . . . {Gaskets, spacers, sealing of the cell; Filling and closing of the cell (for liquid crystal cells G02F 1/1339, G02F 1/1341; for electrochromic or electrolytic cells G02F 1/161)}

1/011 . . {in optical waveguides (G02F 1/0134, G02F 1/01708, G02F 1/025, G02F 1/035, G02F 1/0508, G02F 1/0553, G02F 1/065, G02F 1/073, G02F 1/095, G02F 1/125, G02F 1/1326, G02F 1/225 take precedence; optical waveguides in general G02B 6/00)}

2001/0113 . . . {made of glass, e.g. silica-based optical waveguides}

1/0115 . . . {in optical fibres}

1/0118 . . . . {by controlling the evanescent coupling of light from a fibre into an active, e.g. electro-optic, overlay}

1/0121 . . {Operation of the device; Circuit arrangements not otherwise provided for (G02F 1/0327, G02F 1/0516, G02F 1/076, G02F 1/092, G02F 1/113, G02F 1/13306, G02F 1/163 take precedence)}

1/0123 . . . {Circuits for the control or stabilisation of the bias voltage, e.g. automatic bias control [ABC] feedback loops}

1/0126 . . {by another light beam, i.e. opto-optical modulation (G02F 1/01716, G02F 1/0338, G02F 1/0533, G02F 1/0541, G02F 1/0558, G02F 1/135, G02F 1/293 take precedence)}

1/0128 . . {based on electro-mechanical, magneto-mechanical, elasto-optic effects}

1/0131 . . . {based on elasto-optic, i.e. photoelastic effect, e.g. mechanically induced birefringence (acousto-optic devices G02F 1/11)}

1/0134 . . . . {in optical waveguides}

1/0136 . . {for the control of polarisation, e.g. state of polarisation [SOP] control, polarisation scrambling, TE-TM mode conversion or separation (G02F 1/0353 takes precedence)}

2001/0139 . . . {Polarisation scrambling; Depolarisers}

2001/0142 . . . {TE-TM mode conversion}

2001/0144 . . . {TE-TM mode separation}

1/0147 . . {based on thermo-optic effects (G02F 1/132 takes precedence; tenebrescent compositions C09K 9/00; radiation pyrometry G01J 5/00; thermometers using change of colour or translucency G01K 11/12)}

1/015 . . based on semiconductor elements with at least one potential jump barrier, e.g. PN, PIN junction (G02F 1/03 takes precedence)

2001/0151 . . . {modulating the refractive index}

2001/0152 . . . . {by free carrier effects (Plasma)}

2001/0153 . . . . {by electro-refraction (Kramers-Kronig relation)}

2001/0154 . . . . {by electro-optic effects (LEO=Pockels, QEO=Kerr)}

2001/0155 . . . {modulating the optical absorption}

2001/0156 . . . . {by free carrier absorption}

2001/0157 . . . . {by electro-absorption effects (FK, Stark, QCSE)}

2001/0158 . . . . . {with blue-shift of the absorption band}

2001/0159 . . . . . {with red-shift of the absorption band}

1/017 . . . Structures with periodic or quasi periodic potential variation, e.g. superlattices, quantum wells

1/01708 . . . . {in an optical wavequide structure}

1/01716 . . . . {Optically controlled superlattice or quantum well devices}

1/01725 . . . . {with a non-rectangular quantum well structure, e.g. coupled, graded, stepped quantum wells}

2001/01733 . . . . . {Coupled or double quantum wells}

2001/01741 . . . . . {Asymmetrically coupled or double quantum wells}

2001/0175 . . . . . {with a spatially varied well profile, e.g. graded, stepped quantum wells}

2001/01758 . . . . . {with an asymmetric well profile, e.g. asymmetrically stepped quantum wells}

2001/01766 . . . . {Strained superlattice or quantum well devices}

2001/01775 . . . . {involving an intersubband transition in one well, e.g. e1->e2}

2001/01783 . . . . {Quantum wire}

2001/01791 . . . . {Quantum box or dot}

1/025 . . . in an optical waveguide structure (G02F 1/017, {G02F 1/2257} take precedence)

1/03 . . based on ceramics or electro-optical crystals, e.g. exhibiting Pockels effect or Kerr effect (G02F 1/061 takes precedence)

1/0305 . . . {Constructional arrangements (G02F 1/0327 - G02F 1/05 take precedence)}

1/0311 . . . . {Structural association of optical elements, e.g. lenses, polarizers, phase plates, with the crystal}

1/0316 . . . . {Electrodes}

1/0322 . . . . {Arrangements comprising two or more independently controlled crystals}

1/0327 . . . {Operation of the cell; Circuit arrangements (G02F 1/05 takes precedence)}

1/0333 . . . {addressed by a beam of charged particles, e.g. directed to an adjacent layer exhibiting secondary emission or bombardment-induced conductivity effect (G02F 1/05 takes precedence; electrography, electrophotography G03G; screens for cathode ray tubes acting as light valves H01J 29/12)}

1/0338 . . . {structurally associated with a photoconductive layer or having photo-refractive properties (G02F 1/05 takes precedence)}

1/0344 . . . {controlled by a high-frequency electromagnetic wave component in an electric waveguide (G02F 1/0356, G02F 1/05, G02F 1/2255, G02F 1/3134 take precedence)}

1/035 . . . in an optical waveguide structure

1/0353 . . . . {involving an electro-optic TE-TM mode conversion}
1/0356 . . . . {controlled by a high-frequency electromagnetic wave component in an electric waveguide structure}
1/05 . . . with ferro-electric properties (G02F 1/035, G02F 1/055 take precedence)
1/0508 . . . . {specially adapted for gating or modulating in optical waveguides}
1/0516 . . . . {Operation of the cell; Circuit arrangements}
1/0525 . . . . {addressed by a beam of charged particles, e.g. directed to an adjacent layer exhibiting secondary emission or bombardment-induced conductivity effect (electrography, electrophotography G03G; screens for cathode-ray tubes acting as light valves H01J 29/12)}
1/0533 . . . . {structurally associated with a photo-conductive layer}
1/0541 . . . . {using photo-refractive effects (holography G03H; electro-optical digital static stores using an interference pattern G11C 13/044)}
1/055 . . . the active material being a ceramic (G02F 1/035 takes precedence)
1/0551 . . . . {Constructional details}
1/0553 . . . . {specially adapted for gating or modulating in optical waveguides}
1/0555 . . . . {Operation of the cell; Circuit arrangements}
1/0556 . . . . {specially adapted for a particular application}
1/0558 . . . . {structurally associated with a photoconductive layer or exhibiting photo-refractive properties}
1/061 . . based on electro-optical organic material (G02F 1/07, {G02F 1/13} take precedence)
1/065 . . . in an optical waveguide structure
1/07 . . based on electro-optical liquids exhibiting Kerr effect
1/073 . . . {specially adapted for gating or modulating in optical waveguides}
1/076 . . . {Operation of the cell; Circuit arrangements}
1/09 . . based on magneto-optical elements, e.g. exhibiting Faraday effect
1/091 . . . {based on magneto-absorption or magneto-reflection}
1/092 . . . {Operation of the cell; Circuit arrangements}
1/093 . . . {used as non-reciprocal devices, e.g. optical isolators, circulators (G02F 1/0955 takes precedence)}
2001/094 . . . {Based on magnetophoretic effect}
1/095 . . . in an optical waveguide structure
1/0955 . . . . {used as non-reciprocal devices, e.g. optical isolators, circulators}
1/11 . . based on acousto-optical elements, e.g. using variable diffraction by sound or like mechanical waves ({elasto-optic effect without wave propagation G02F 1/0131; } acousto-optical deflection G02F 1/33)
1/113 . . . {Circuit or control arrangements}
1/116 . . . {using an optically anisotropic medium, wherein the incident and the diffracted light waves have different polarizations, e.g. acousto-optic tunable filter [AOTF] (G02F 1/125 takes precedence)}
1/125 . . . in an optical waveguide structure
1/13 . . based on liquid crystals, e.g. single liquid crystal display cells
1/1303 . . . {Apparatus specially adapted to the manufacture of LCDs}
1/1306 . . . {Details}
1/1309 . . . . {Repairing; Testing (testing of optical apparatus G01M 11/00; electronic testing of displays or display drivers, e.g. of LCDs, G09G 3/006)}
1/1313 . . . {specially adapted for a particular application}
2001/1316 . . . {Cleaning methods or materials for cleaning part of liquid crystal cell components during the manufacturing process}
1/132 . . . {Thermal activation of liquid crystals exhibiting a thermo-optic effect (thermometers using change of colour or translucency of liquid crystals G01K 11/165; thermally addressed liquid crystal elements in a matrix G09G 3/3603)}
1/1323 . . . {Arrangements for providing a switchable viewing angle}
1/1326 . . . {Liquid crystal optical waveguides or liquid crystal cells specially adapted for gating or modulating between optical waveguides}
1/133 . . . Constructional arrangements; Operation of liquid crystal cells; Circuit arrangements (arrangements or circuits for control of liquid crystal elements in a {segment display or a} matrix, not structurally associated with these elements, {respectively G09G 3/18 and } G09G 3/36)
1/13306 . . . . {Circuit arrangements or driving methods for the control of single liquid crystal cells (G02F 1/132, G02F 1/133382 take precedence)}
2001/13312 . . . . . {Circuits comprising a photodetector not for feedback}
1/13318 . . . . . {Circuits comprising a photodetector}
2001/13324 . . . . . {Circuits comprising a solar cell}
1/1333 . . . . Constructional arrangements; {Manufacturing methods} (G02F 1/135, G02F 1/136 take precedence)
2001/133302 . . . . . {rigid substrate, e.g. inorganic}
1/133305 . . . . . {Flexible substrates, e.g. plastics, organic film}
1/133308 . . . . . {LCD panel immediate support structure, e.g. front and back frame or bezel}
2001/133311 . . . . . {Environmental protection, e.g. dust, humidity}
2001/133314 . . . . . {Back frame}
2001/133317 . . . . . {Intermediate frame, e.g. between backlight housing and front frame}
2001/13332 . . . . . {Front frame}
2001/133322 . . . . . {Mechanical guiding and alignment of LCD panel support components}
2001/133325 . . . . . {Method of assembling (G02F 2201/465 takes precedence)}
2001/133328 . . . . . {Segmented frame}
2001/133331 . . . . . {Cover glass}
2001/133334 . . . . . {Electromagnetic shield}
2001/133337 . . . . . {Ion-diffusion preventing or absorbing layer}

1/13334 . . . . . {Plasma addressed liquid crystal cells [PALC] (plasma panels H01J 17/49)}
2001/133342 . . . . . {for double side displays}
1/133345 . . . . . {Insulating layers (G02F 1/1335, G02F 1/1337, G02F 1/135, G02F 1/136 take precedence)}
1/133348 . . . . . {Charged-particles, e.g. electron-beam, addressed liquid crystals cells (screen for cathode ray tubes acting as light valves H01J 29/12; electrography, electrophotography G03G)}
1/133351 . . . . . {Manufacturing of individual cells out of a plurality of cells, e.g. by dicing}
2001/133354 . . . . . {Arrangements for aligning or assembling the substrates}
2001/133357 . . . . . {Planarisation layer}
1/13336 . . . . . {Combining plural substrates to produce large-area displays, e.g. tiled displays}
1/133362 . . . . . {Optically addressed liquid crystal cells (G02F 1/135 takes precedence)}
1/133365 . . . . . {Cells in which the active layer comprises a liquid crystalline polymer (liquid crystalline polymers in general C09K 19/38)}
2001/133368 . . . . . {cell having two substrates with different characteristic, e.g. hickness or material}
1/133371 . . . . . {Cells with varying thickness of the liquid crystal layer}
2001/133374 . . . . . {for displaying permanent signs or marks}
1/133377 . . . . . {Cells with plural compartments or having plurality of liquid crystal microcells partitioned by walls, e.g. one microcell per pixel}
1/13338 . . . . . {Input devices, e.g. touch-panels (specially adapted as input devices to computers G06F 3/033; touch-panels per se G06K 11/06, keyboard switches per se H01H 13/70)}
1/133382 . . . . . {Heating or cooling of liquid crystal cells other than for activation, e.g. circuits or arrangements for temperature control, stabilisation or uniform distribution over the cell}
1/133385 . . . . . {with cooling means, e.g. fans}
2001/133388 . . . . . {Constructional difference between the display region and the peripheral region}
2001/133391 . . . . . {Constructional arrangement for sub-divided displays}
2001/133394 . . . . . {Piezoelectric element associated with the cell}
2001/133397 . . . . . {for suppressing after-image or image-sticking}
1/1334 . . . . . based on polymer dispersed liquid crystals, e.g. microencapsulated liquid crystals {(compositions C09K 19/544)}
1/13342 . . . . . {Holographic polymer dispersed liquid crystals}
2001/13345 . . . . . {Network or three-dimensional gel}
2001/13347 . . . . . {Reverse mode, i.e. clear in the off-state and scattering in the on-state}
1/1335 . . . . . Structural association of cells with optical devices, e.g. polarisers or reflectors
1/133502 . . . . . {Antiglare, refractive index matching layers}
1/133504 . . . . . {Diffusing, scattering, diffracting elements (associated to illuminating devices G02F 1/133606)}
2001/133507 . . . . . {Luminance enhancement films}
1/133509 . . . . . {Filters, e.g. light shielding masks (optical filters G02B 5/20)}
1/133512 . . . . . {Light shielding layers, e.g. black matrix (G02F 1/136209 takes precedence)}
1/133514 . . . . . {Colour filters (luminescent elements G02F 1/133617)}
1/133516 . . . . . {Methods of making thereof, e.g. printing, electro-deposition, photolithography (photomechanical production of textured or patterned surfaces G03F)}
2001/133519 . . . . . {overcoating}
2001/133521 . . . . . {Interference filters}
1/133524 . . . . . {Light-guides, e.g. fibre-optic bundles, louvered or jalousie light-guides}
1/133526 . . . . . {Lenses, e.g. microlenses, Fresnel lenses (lenses in general G02B 3/00)}
1/133528 . . . . . {Polarisers (polarisers per se G02B 5/30)}
2001/133531 . . . . . {Special arrangement of polariser or analyser axes}
1/133533 . . . . . {Colour selective polarisers (G02F 1/1347 takes precedence)}
1/133536 . . . . . {Reflective polarizers (G02F 1/13362 takes precedence)}
2001/133538 . . . . . {with a spatial distribution of the polarisation direction}
2001/133541 . . . . . {Circular polarisers}
2001/133543 . . . . . {Cholesteric polarisers}
2001/133545 . . . . . {Dielectric stack polarisers}
2001/133548 . . . . . {Wire-grid polarisers}
2001/13355 . . . . . {Polarising beam splitters [PBS]}
1/133553 . . . . . {Reflecting elements (associated to illuminating devices G02F 1/133605)}
1/133555 . . . . . {Transflectors}
2001/133557 . . . . . {Half-mirror}
2001/13356 . . . . . {Particular location of the optical element}
2001/133562 . . . . . {on the viewer side}
2001/133565 . . . . . {inside the LC element, i.e. between the cell substrates}
2001/133567 . . . . . {on the back side}
1/1336 . . . . . {Illuminating devices (in general F21V; associated with display devices for electronic watches G04G 9/0041)}
2001/133601 . . . . . {for spatial active dimming}
1/133602 . . . . . {Direct backlight}
1/133603 . . . . . {with LEDs}
1/133604 . . . . . {with lamps}
1/133605 . . . . . {including specially adapted reflectors}
1/133606 . . . . . {including a specially adapted diffusing, scattering or light controlling members}
2001/133607 . . . . . {the light controlling member including light directing or refracting elements, e.g. prisms or lenses}

1/133608 . . . . . {including particular frames or supporting means}
1/133609 . . . . . {including means for improving the color mixing, e.g. white}
1/133611 . . . . . {including means for improving the brightness uniformity}
2001/133612 . . . . . {Electrical details}
2001/133613 . . . . . {including a particular sequence of light sources}
2001/133614 . . . . . {the light is generated by photoluminescence, e.g. a phosphor is illuminated by UV or blue light}
1/133615 . . . . . {Edge-illuminating devices, i.e. illuminating from the side (G02B 6/0001 takes precedence)}
2001/133616 . . . . . {Front illuminating devices}
1/133617 . . . . . {Illumination with ultra-violet light; Luminescent elements or materials associated to the cell}
2001/133618 . . . . . {for ambient light}
1/13362 . . . . . {providing polarised light, e.g. by converting a polarisation component into another one (optical systems for polarising G02B 27/28)}
1/133621 . . . . . {providing coloured light (G02F 1/133617, G02F 1/133533 take precedence)}
2001/133622 . . . . . {colour sequential illumination}
2001/133623 . . . . . {Inclined coloured light beams}
2001/133624 . . . . . {having a particular spectral emission}
2001/133625 . . . . . {Electron stream lamps}
2001/133626 . . . . . {providing two modes of illumination, e.g. day-night}
2001/133627 . . . . . {Projection-direct viewing}
2001/133628 . . . . . {with cooling means}
1/13363 . . . . . Birefringent elements, e.g. for optical compensation
2001/133631 . . . . . {with a spatial distribution of the retardation value}
1/133632 . . . . . {with refractive index ellipsoid inclined relative to the LC-layer surface}
2001/133633 . . . . . {using mesogenic materials}
1/133634 . . . . . {the refractive index Nz perpendicular to the element surface being different from in-plane refractive indices Nx and Ny, e.g. biaxial or with normal optical axis}
2001/133635 . . . . . {Multifunctional compensators}
1/133636 . . . . . {with twisted orientation, e.g. comprising helically oriented LC-molecules or a plurality of twisted birefringent sublayers}
2001/133637 . . . . . {characterized by the wavelength dispersion}
2001/133638 . . . . . {Waveplates, i.e. plates with a retardation value of lambda/n}
1/1337 . . . . . Surface-induced orientation of the liquid crystal molecules, e.g. by alignment layers
1/133703 . . . . . {by introducing organic surfactant additives into the liquid crystal material (C09K 19/56 takes precedence)}
1/133707 . . . . . {Structures for producing distorted electric fields, e.g. bumps, protrusions, recesses, slits in pixel electrodes}
1/133711 . . . . . {by organic films, e.g. polymeric films}
2001/133715 . . . . . {by first depositing a monomer}
1/133719 . . . . . {with coupling agent molecules, e.g. silane}
1/133723 . . . . . {Polyimide, polyamide-imide}
2001/133726 . . . . . {made of a mesogenic material}
2001/13373 . . . . . {Disclination line; Reverse tilt}
1/133734 . . . . . {by obliquely evaporated films, e.g. Si or SiO_2 films}
2001/133738 . . . . . {for homogeneous alignment}
2001/133742 . . . . . {for homeotropic alignment}
2001/133746 . . . . . {for high pretilt angle, i.e. > 15 degrees}
2001/133749 . . . . . {for low pretilt angle, i.e. < 15 degrees}
1/133753 . . . . . {with different alignment orientations or pretilt angles on a same surface, e.g. for grey scale or improved viewing angle}
2001/133757 . . . . . {with different alignment orientations}
2001/133761 . . . . . {with different pretilt angles}
2001/133765 . . . . . {without a surface treatment}
2001/133769 . . . . . {comprising an active, e.g. switchable alignment layer}
2001/133773 . . . . . {The alignment material or treatment is different for the two opposite substrates}
2001/133776 . . . . . {having structures, i.e. unevenness locally influencing the alignment}
1/13378 . . . . . {by treatment of the surface, e.g. embossing, rubbing, light irradiation (G02F 1/133711, G02F 1/133734, G02F 1/133753 take precedence)}
1/133784 . . . . . {by rubbing}
1/133788 . . . . . {by light irradiation, e.g. linearly polarised light photo-polymerisation}
2001/133792 . . . . . {by etching}
2001/133796 . . . . . {having conducting property}
1/1339 . . . . . Gaskets; Spacers; Sealing of cells
1/13392 . . . . . {spacers dispersed on the cell substrate, e.g. spherical particles, microfibres}
1/13394 . . . . . {spacers regularly patterned on the cell subtrate, e.g. walls, pillars (G02F 1/133377 takes precedence)}
2001/13396 . . . . . {Spacers having different sizes}
2001/13398 . . . . . {Materials and properties of the spacer}
1/1341 . . . . . Filling or closing of cells
2001/13415 . . . . . {Drop filling process}
1/1343 . . . . . Electrodes {(reflective electrodes G02F 1/133553)}
1/134309 . . . . . {characterised by their geometrical arrangement (G09F 9/302 takes precedence)}
2001/134318 . . . . . {having a patterned common electrode}
1/134327 . . . . . {Segmented, e.g. alpha numeric display}
1/134336 . . . . . {Matrix}
2001/134345 . . . . . {Subdivided pixels, e.g. grey scale, redundancy}
2001/134354 . . . . . {the sub-pixels being capacitively coupled}

1/134363 . . . . . {for applying an electric field parallel to the substrate, i.e. in-plane switching [IPS]}
2001/134372 . . . . . {for fringe field switching [FFS] where the common electrode is not patterned, e.g. planar}
2001/134381 . . . . . {Hybrid switching mode, i.e. for applying an electric field both parallel and orthogonal to the substrates}
1/13439 . . . . . {characterised by their electrical, optical, physical properties; materials therefor; method of making}
1/1345 . . . . Conductors connecting electrodes to cell terminals
1/13452 . . . . . {Conductors connecting driver circuitry and terminals of panels (H01L 21/00 takes precedence; electrical details inside the cell G02F 1/133;)}
1/13454 . . . . . {Drivers integrated on the active matrix substrate (G02F 1/136277 takes precedence)}
2001/13456 . . . . . {cell terminals on one side of the display only}
1/13458 . . . . . {Terminal pads}
1/1347 . . . . Arrangement of liquid crystal layers or cells in which the final condition of one light beam is achieved by the addition of the effects of two or more layers or cells
1/13471 . . . . . {in which all the liquid crystal cells or layers remain transparent, e.g. FLC, ECB, DAP, HAN, TN, STN, SBE-LC cells (G02F 1/13475 takes precedence)}
1/13473 . . . . . {for wavelength filtering or for colour display without the use of colour mosaic filters}
1/13475 . . . . . {in which at least one liquid crystal cell or layer is doped with a pleochroic dye, e.g. GH-LC cell (G02F 1/13476 takes precedence)}
1/13476 . . . . . {in which at least one liquid crystal cell or layer assumes a scattering state}
2001/13478 . . . . . {based on selective reflection}
1/135 . . . Liquid crystal cells structurally associated with a photoconducting or a ferro-electric layer, the properties of which can be optically or electrically varied {(G02F 1/133348 takes precedence)}
2001/1351 . . . . {light-absorbing or blocking layer}
2001/1352 . . . . {light-reflecting layer}
1/1354 . . . . {having a particular photoconducting structure or material}
2001/1355 . . . . . {material or manufacturing process thereof}
2001/1357 . . . . {electrode structure}
1/1358 . . . . {the supplementary layer being a ferro-electric layer}
1/136 . . . Liquid crystal cells structurally associated with a semi-conducting layer or substrate, e.g. cells forming part of an integrated circuit (G02F 1/135 takes precedence)
2001/13606 . . . . {having means for reducing parasitic capacitance}
2001/13613 . . . . {the semiconductor element is formed on a first substrate and thereafter transferred to the final cell substrate}
1/1362 . . . . Active matrix addressed cells {(G02F 1/134336, G02F 1/134363 take precedence)}
1/136204 . . . . . {Arrangements to prevent high voltage or static electricity failures}
1/136209 . . . . . {Light shielding layers, e.g. black matrix, incorporated in the active matrix substrate, e.g. structurally associated with the switching element}
1/136213 . . . . . {Storage capacitors associated with the pixel electrode}
2001/136218 . . . . . {Shield electrode}
2001/136222 . . . . . {Color filter incorporated in the active matrix substrate}
1/136227 . . . . . {Through-hole connection of the pixel electrode to the active element through an insulation layer}
2001/136231 . . . . . {for reducing the number of lithographic steps}
2001/136236 . . . . . {using a gray or half tone lithographic process}
1/13624 . . . . . {having more than one switching element per pixel}
2001/136245 . . . . . {having complementary transistors}
2001/13625 . . . . . {Patterning using a multi-mask exposure}
2001/136254 . . . . . {Checking; Testing}
1/136259 . . . . . {Repairing; Defects}
2001/136263 . . . . . {Line defect}
2001/136268 . . . . . {Switch defect}
2001/136272 . . . . . {Auxiliary line}
1/136277 . . . . . {formed on a semiconductor substrate, e.g. silicon}
2001/136281 . . . . . {having a transmissive semiconductor substrate}
1/136286 . . . . . {Wiring, e.g. gate line, drain line}
2001/13629 . . . . . {Multi-layer wirings}
2001/136295 . . . . . {Materials; Compositions; Methods of manufacturing}
1/1365 . . . . . in which the switching element is a two-electrode device {(G02F 1/136277 takes precedence)}
1/1368 . . . . . in which the switching element is a three-electrode device {(G02F 1/136277 takes precedence)}
2001/13685 . . . . . {Top gate}
1/137 . . characterised by the electro-optical or magneto-optical effect, e.g. field-induced phase transition, orientation effect, guest-host interaction or dynamic scattering
2001/13706 . . . . {the LC having positive dielectric anisotropy}
2001/13712 . . . . {the LC having negative dielectric anisotropy}
1/13718 . . . . {based on a change of the texture state of a cholesteric liquid crystal}
1/13725 . . . . {based on guest-host interaction (G02F 1/13762, G02F 1/13737, take precedence)}
1/13731 . . . . {based on a field-induced phase transition (G02F 1/13781 takes precedence)}
1/13737 . . . . . {in liquid crystals doped with a plechroic dye}

1/13743 . . . . {based on electrohydrodynamic instabilities or domain formation in liquid crystals}
1/1375 . . . . . {using dynamic scattering}
2001/13756 . . . . {the liquid crystal selectively assuming a light-scattering state (G02F 1/1334, G02F 1/13718 take precedence)}
1/13762 . . . . {containing luminescent or electroluminescent additives (luminescent materials in general C09K 11/00; compositions of liquid crystals comprising additives C09K 19/52 - C09K 19/603; electroluminescent light sources H05B 33/00)}
1/13768 . . . . {based on magneto-optical effects}
2001/13775 . . . . {Polymer stabilized liquid crystal layers}
1/13781 . . . . {using smectic liquid crystals (G02F 1/141 takes precedence)}
2001/13787 . . . . {Hybrid alignment cells (G02F 1/1393 takes precedence)}
2001/13793 . . . . {Blue phases}
1/139 . . . . based on orientation effects in which the liquid crystal remains transparent
1/1391 . . . . . {Bistable or multi-stable liquid crystal cells (G02F 1/141 takes precedence)}
1/1392 . . . . . {using a field-induced sign-reversal of the dielectric anisotropy}
1/1393 . . . . . {the birefringence of the liquid crystal being electrically controlled, e.g. ECB-, DAP-, HAN-, PI-LC cells (G02F 1/1396, G02F 1/141 take precedence)}
1/1395 . . . . . {Optically compensated birefringence [OCB]- cells or PI- cells}
1/1396 . . . . . {the liquid crystal being selectively controlled between a twisted state and a non-twisted state, e.g. TN-LC cell (G02F 1/141 takes precedence)}
1/1397 . . . . . {the twist being substantially higher than 90°, e.g. STN-, SBE-, OMI-LC cells}
2001/1398 . . . . . {the twist being below 90°C}
1/141 . . . . . using ferroelectric liquid crystals
2001/1412 . . . . . {Antiferroelectric liquid crystals}
2001/1414 . . . . . {Deformed helix ferroelectric [DHL]}
1/1416 . . . . . {Details of the smectic layer structure, e.g. bookshelf, chevron, C1 and C2}
1/1418 . . . . . {using smectic liquid crystals, e.g. based on the electroclinic effect}
1/15 . . based on an electrochromic effect

WARNING

Group G02F 1/15 is impacted by reclassification into groups G02F 1/1514 and G02F 1/1516.

All groups listed in this Warning should be considered in order to perform a complete search.

2001/1502 . . . {complementary cell}
2001/15025 . . . . {having an inorganic electrochromic layer and a second solid organic electrochromic layer}
1/1503 . . . caused by oxidation-reduction reactions in organic liquid solutions, e.g. viologen solutions
1/1506 . . . caused by electrodeposition, e.g. electrolytic deposition of an inorganic material on or close to an electrode
1/1508 . . . . {using a solid electrolyte}
1/1514 . . . characterised by the electrochromic material, e.g. by the electrodeposited material

WARNING

Group G02F 1/1514 is incomplete pending reclassification of documents from group G02F 1/15.

Groups G02F 1/15 and G02F 1/1514 should be considered in order to perform a complete search.

2001/15145 . . . . {the electrochromic layer comprises a mixture of anodic and cathodic compounds}
1/1516 . . . . comprising organic material

WARNING

Group G02F 1/1516 is incomplete pending reclassification of documents from group G02F 1/15.

Groups G02F 1/15 and G02F 1/1516 should be considered in order to perform a complete search.

1/15165 . . . . . {Polymers}
2001/1517 . . . . . {Cyano complex compounds, e.g. Prussian blue}
2001/1518 . . . . . {Ferrocene compounds}
1/1523 . . . . comprising inorganic material

WARNING

Group G02F 1/1523 is impacted by reclassification into group G02F 1/1524.

Groups G02F 1/1523 and G02F 1/1524 should be considered in order to perform a complete search.

1/1524 . . . . . Transition metal compounds

WARNING

Group G02F 1/1524 is incomplete pending reclassification of documents from group G02F 1/1523.

Groups G02F 1/1523 and G02F 1/1524 should be considered in order to perform a complete search.

1/15245 . . . . . {based on iridium oxide or hydroxide}
1/1525 . . . . . {characterised by a particular ion transporting layer, e.g. electrolyte}
1/153 . . . Constructional details
1/1533 . . . . {structural features not otherwise provided for}
2001/1536 . . . . . {additional, e.g. protective, layer inside the cell}
1/155 . . . . Electrodes
2001/1552 . . . . . {Inner electrode, e.g. the electrochromic layer being sandwiched between the inner electrode and the support substrate---- this group, now to be changed, should already been created by implementation of a previous DOC14 (prior to the one referred to above)----}

2001/1555 . . . . . {Counter electrode}
2001/1557 . . . . . {Side by side arrangements of working and counter electrodes}
1/157 . . . . Structural association of cells with optical devices, e.g. reflectors or illuminating devices
1/161 . . . . Gaskets; Spacers; Sealing of cells; Filling or closing of cells
1/163 . . . Operation of electrochromic cells, e.g. electrodeposition cells; Circuit arrangements therefor
2001/1635 . . . . {the pixel comprises active switching elements, e.g. TFT}
2001/164 . . . {the electrolyte is made of polymers}
1/165 . . based on translational movement of particles in a fluid under the influence of an applied field

WARNING

Group G02F 1/165 is incomplete pending reclassification of documents from groups G02F 1/01, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/166 . . . characterised by the electro-optical or magneto-optical effect

WARNING

Group G02F 1/166 is incomplete pending reclassification of documents from group G02F 1/01, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/167 . . . . by electrophoresis

WARNING

Group G02F 1/167 is impacted by reclassification into groups G02F 1/1675, G02F 1/16753, G02F 1/16755, G02F 1/16756, G02F 1/16757, G02F 1/1677, G02F 1/1679, and G02F 1/1685.

All groups listed in this Warning should be considered in order to perform a complete search.

1/1671 . . . . involving dry toners
1/1673 . . . . by magnetophoresis

WARNING

Group G02F 1/1673 is incomplete pending reclassification of documents from group G02F 1/01, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/1675 . . . Constructional details

WARNING

Group G02F 1/1675 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/16753 . . . . Structures for supporting or mounting cells, e.g. frames or bezels

WARNING

Group G02F 1/16753 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/16755 . . . . Substrates

WARNING

Group G02F 1/16755 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/16756 . . . . Insulating layers

WARNING

Group G02F 1/16756 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/16757 . . . . Microcapsules

WARNING

Group G02F 1/16757 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/1676 . . . . Electrodes

WARNING

Group G02F 1/1676 is impacted by reclassification into groups G02F 1/16761, G02F 1/16762, and G02F 1/16766.

All groups listed in this Warning should be considered in order to perform a complete search.

1/16761 . . . . . Side-by-side arrangement of working electrodes and counter-electrodes

WARNING

Group G02F 1/16761 is incomplete pending reclassification of documents from group G02F 1/1676.

All groups listed above should be considered in order to perform a complete search.

1/16762 . . . . . having three or more electrodes per pixel

WARNING

Group G02F 1/16762 is incomplete pending reclassification of documents from group G02F 1/1676.

All groups listed above should be considered in order to perform a complete search.

1/16766 . . . . . for active matrices

WARNING

Group G02F 1/16766 is incomplete pending reclassification of documents from group G02F 1/1676.

All groups listed above should be considered in order to perform a complete search.

1/1677 . . . . Structural association of cells with optical devices, e.g. reflectors or illuminating devices

WARNING

Group G02F 1/1677 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

2001/1678 . . . . {characterised by the composition or particle type}

1/1679 . . . . Gaskets; Spacers; Sealing of cells; Filling or closing of cells

WARNING

Group G02F 1/1679 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/1681 . . . . . having two or more microcells partitioned by walls, e.g. of microcup type

1/1685 . . . Operation of cells; Circuit arrangements affecting the entire cell

WARNING

Group G02F 1/1685 is incomplete pending reclassification of documents from group G02F 1/167, G02F 1/17, and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/169 . . based on orientable non-spherical particles having a common optical characteristic, e.g. suspended particles of reflective metal flakes

WARNING

Group G02F 1/169 is incomplete pending reclassification of documents from groups G02F 1/17 and G02F 1/19.

All groups listed above should be considered in order to perform a complete search.

1/17 . . based on variable-absorption elements not provided for in groups G02F 1/015 - G02F 1/169

WARNING

Group G02F 1/17 is impacted by reclassification into group G02F 1/165, G02F 1/166, G02F 1/1673, G02F 1/1675, G02F 1/16753, G02F 1/16755, G02F 1/16756, G02F 1/16757, G02F 1/1677, G02F 1/1679, G02F 1/1685, G02F 1/169.

All groups listed above should be considered in order to perform a complete search.

1/172 . . . {based on a suspension of orientable dipolar particles, e.g. suspended particles displays}

1/174 . . . {based on absorption band-shift, e.g. Stark - or Franz-Keldysh effect (G02F 1/015, G02F 1/178 take precedence)}

1/176 . . . {using acid- based indicators}

1/178 . . . {based on pressure effects (G02F 1/195 takes precedence)}

1/19 . . based on variable-reflection or variable-refraction elements not provided for in groups G02F 1/015 - G02F 1/169

WARNING

Group G02F 1/19 is impacted by reclassification into group G02F 1/165, G02F 1/166, G02F 1/1673, G02F 1/1675, G02F 1/16753, G02F 1/16755, G02F 1/16756, G02F 1/16757, G02F 1/1677, G02F 1/1679, G02F 1/1685, G02F 1/169.

All groups listed above should be considered in order to perform a complete search.

1/195 . . . {by using frustrated reflection (digital reflection using controlled total internal reflection G02F 1/315)}

1/21 . . by interference

2001/211 . . . {Sagnac type}

2001/212 . . . {Mach-Zehnder type}

2001/213 . . . {Fabry-Perot type}

2001/215 . . . {Michelson type}

1/216 . . . {using liquid crystals, e.g. liquid crystal Fabry-Perot filters}
2001/217 . . . {Multi mode interference type}
1/218 . . . {using semi-conducting materials}
1/225 . . . in an optical waveguide structure
1/2252 . . . . {in optical fibres}
1/2255 . . . . {controlled by a high-frequency electromagnetic component in an electric waveguide structure}
1/2257 . . . . {the optical waveguides being made of semiconducting material}
1/23 . . for the control of the colour (G02F 1/03 - G02F 1/21 take precedence)
1/25 . . . as to hue or predominant wavelength
1/29 . for the control of the position or the direction of light beams, i.e. deflection
2001/291 . . {Two-dimensional analog deflection}
1/292 . . {by controlled diffraction or phased-array beam steering (controlled diffraction for optical switching G02F 1/31)}
1/293 . . {by another light beam, i.e. opto-optical deflection}
2001/294 . . {Variable focal length device}
1/295 . . {Analog deflection from or} in an optical waveguide structure]
1/2955 . . . {by controlled diffraction or phased-array beam steering (controlled diffraction for optical waveguide switching G02F 1/313)}
1/31 . . Digital deflection, {i.e. optical switching} (G02F 1/33 takes precedence)
2001/311 . . . {Cascade arrangement of plural switches}
1/313 . . . in an optical waveguide structure
1/3131 . . . . {in optical fibres}
1/3132 . . . . {of directional coupler type (all-optical modulation, gating or switching using a non-linear directional coupler G02F 1/3521)}
1/3133 . . . . . {the optical waveguides being made of semiconducting materials}
1/3134 . . . . . {controlled by a high-frequency electromagnetic wave component in an electric waveguide structure}
2001/3135 . . . . . {vertical structure}
1/3136 . . . . {of interferometric switch type}
1/3137 . . . . {with intersecting or branching waveguides, e.g. X-switches and Y-junctions}
1/3138 . . . . . {the optical waveguides being made of semiconducting materials}
1/315 . . . based on the use of controlled internal reflection
1/33 . . Acousto-optical deflection devices {(circuit or control arrangements therefor G02F 1/113)}
1/332 . . . {comprising a plurality of transducers on the same crystal surface, e.g. multi-channel Bragg cell}
1/335 . . . having an optical waveguide structure
1/35 . Non-linear optics
1/3501 . . {Constructional arrangements of non-linear optical devices, e.g. shape of non-linear crystals (constructional arrangements of electro-optic devices G02F 1/0305)}
2001/3503 . . . {Structural association of optical elements, e.g. lenses, with the nonlinear optical device}
2001/3505 . . . {Coatings; Housings; Supports}
2001/3507 . . . {Arrangements comprising two or more nonlinear optical devices}
2001/3509 . . . {Shape, e.g. shape of end face}
1/3511 . . {Self-focusing or self-trapping of light; Light-induced birefringence; Induced optical Kerr-effect (photorefractive effects of electro-optic crystals G02F 1/0338, G02F 1/0541, of ceramics G02F 1/0558; opto-optical modulation G02F 1/0126; opto-optical deflection G02F 1/293)}
1/3513 . . . {Soliton propagation}
1/3515 . . {All-optical modulation, gating, switching, e.g. control of a light beam by another light beam (G02F 1/353, G02F 1/37, G02F 1/39 take precedence)}
1/3517 . . . {using an interferometer}
1/3519 . . . . {of Sagnac type, i.e. nonlinear optical loop mirror [NOLM]}
1/3521 . . . {using a directional coupler}
1/3523 . . {Non-linear absorption changing by light, e.g. bleaching (laser Q-switching using bleachable media H01S 3/113)}
1/3525 . . {Optical damage}
1/3526 . . {using two-photon emission or absorption processes (Raman effect H01S 3/30)}
2001/3528 . . {for producing a supercontinuum}
1/353 . . {Frequency conversion, i.e. wherein a light beam with frequency components different from those of the incident light beams is generated (second harmonic generation G02F 1/37; optical parametric generation or amplification G02F 1/39; transferring the modulation of modulated light G02F 2/004; optical pumping of a laser by another laser H01S 3/094; nonlinear optical devices inside a laser cavity H01S 3/108)}
1/3532 . . . {Arrangements of plural nonlinear devices for generating multi-colour light beams, e.g. arrangements of SHG, SFG, OPO devices for generating RGB light beams}
1/3534 . . . {Three-wave interaction, e.g. sum-difference frequency generation (G02F 1/3532 takes precedence)}
1/3536 . . . {Four-wave interaction}
1/3538 . . . . {for optical phase conjugation (H01S 3/10076 takes precedence)}
2001/354 . . . {Third or higher harmonic generation}
2001/3542 . . . {Multi-pass arrangements, i.e. arrangements to pass light a plurality of times through the same element, e.g. by using an enhancement cavity}
1/3544 . . . {Particular phase matching techniques}
2001/3546 . . . . {Active phase matching, e.g. by electro- or thermo-optic tuning}
2001/3548 . . . . {Quasi-phase-matching [QPM], e.g. using a periodic domain inverted structure}
1/355 . . characterised by the materials used
1/3551 . . . {Crystals}
1/3553 . . . . {having the formula MTiOYO4, where M=K, Rb, TI, NH4 or Cs and Y=P or As, e.g. KTP}
1/3555 . . . {Glasses}
1/3556 . . . {Semiconductor materials, e.g. quantum wells}
1/3558 . . . {Poled materials, e.g. with periodic poling; Fabrication of domain inverted structures, e.g. for quasi-phase-matching [QPM]}

1/361 . . . Organic materials
1/3611 . . . . {containing Nitrogen}
1/3612 . . . . . {Heterocycles having N as heteroatom}
1/3613 . . . . {containing Sulfur}
1/3614 . . . . . {Heterocycles having S as heteroatom}
1/3615 . . . . {containing polymers}
1/3616 . . . . . {having the non-linear optical group in the main chain}
1/3617 . . . . . {having the non-linear optical group in a side chain}
1/3618 . . . . {Langmuir Blodgett Films}
1/3619 . . . . {Organometallic compounds}
1/365 . . in an optical waveguide structure (G02F 1/377, {G02F 1/395} take precedence)
1/37 . . for second-harmonic generation {(G02F 1/3532 takes precedence)}
2001/372 . . . {means for homogenizing the output beam}
2001/374 . . . {Cerenkov radiation}
1/377 . . . in an optical waveguide structure
1/3775 . . . . {with a periodic structure, e.g. domain inversion, for quasi-phase-matching [QPM] (G02F 1/383 takes precedence)}
1/383 . . . . of the optical fibre type
1/39 . . for parametric generation or amplification of light, infra-red, or ultra-violet waves {(arrangements of plural nonlinear devices for generating multi-colour light beams G02F 1/3532)}
2001/392 . . . {Parametric amplification}
1/395 . . . {in optical waveguides}
1/397 . . . {Amplification of light by wave mixing involving an interference pattern, e.g. using photorefractive material}

2/00 Demodulating light; Transferring the modulation of modulated light; Frequency-changing of light (G02F 1/35 takes precedence)
2/002 . {using optical mixing (homodyne systems H04B 10/63; heterodyne systems H04B 10/64)}
2/004 . {Transferring the modulation of modulated light, i.e. transferring the information from one optical carrier of a first wavelength to a second optical carrier of a second wavelength, e.g. all-optical wavelength converter}
2002/006 . . {All-optical wavelength conversion}
2002/008 . . {Opto-electronic wavelength conversion, i.e. involving photo-detection of the first optical carrier}
2/02 . Frequency-changing of light, e.g. by quantum counters

3/00 Optical logic elements; Optical bistable devices
3/02 . Optical bistable devices
3/022 . . {based on electro-, magneto- or acousto-optical elements (G02F 3/028 takes precedence)}
3/024 . . {based on non-linear elements, e.g. non-linear Fabry-Perot cavity (G02F 3/028 takes precedence)}
3/026 . . {based on laser effects}
3/028 . . {based on self electro-optic effect devices [SEED]}

7/00 Optical analogue/digital converters

NOTE

This group covers only converters based in substantial manner on elements which are provided for in group G02F 1/00.

2201/00 Constructional arrangements not provided for in groups G02F 1/00 - G02F 7/00
2201/02 . fibre
2201/04 . monomode
2201/05 . multimode
2201/06 . integrated waveguide
2201/063 . . ridge; rib; strip loaded
2201/066 . . channel; buried
2201/07 . buffer layer
2201/08 . light absorbing layer
2201/083 . . infra-red absorbing
2201/086 . . UV absorbing
2201/12 . electrode
2201/121 . . common or background
2201/122 . . having a particular pattern
2201/123 . . pixel
2201/124 . . interdigital
2201/125 . . delta-beta
2201/126 . . push-pull
2201/127 . . travelling wave
2201/128 . . field shaping
2201/14 . asymmetric
2201/15 . periodic
2201/16 . series; tandem
2201/17 . Multi-pass arrangements, i.e. arrangements to pass light a plurality of times through the same element, e.g. by using an enhancement cavity
2201/18 . parallel
2201/20 . delay line
2201/205 . . of fibre type
2201/30 . grating
2201/302 . . grating coupler
2201/305 . . diffraction grating
2201/307 . . Reflective grating, i.e. Bragg grating
2201/34 . reflector
2201/343 . . cholesteric liquid crystal reflector
2201/346 . . distributed (Bragg) reflector
2201/36 . Airflow channels, e.g. constructional arrangements facilitating the flow of air
2201/38 . Anti-reflection arrangements
2201/40 . Arrangements for improving the aperture ratio
2201/42 . Arrangements for providing conduction through an insulating substrate
2201/44 . Arrangements combining different electro-active layers, e.g. electrochromic, liquid crystal or electroluminescent layers
2201/46 . Fixing elements
2201/465 . . Snap -fit
2201/48 . Flattening arrangements
2201/50 . Protective arrangements
2201/501 . . Blocking layers, e.g. against migration of ions
2201/503 . . Arrangements improving the resistance to shock
2201/505 . . Arrangements improving the resistance to acoustic resonance like noise
2201/506 . . Repairing, e.g. with redundant arrangement against defective part

2201/508 . . . Pseudo repairing, e.g. a defective part is brought into a condition in which it does not disturb the functioning of the device
2201/52 . RGB geometrical arrangements
2201/54 . Arrangements for reducing warping-twist
2201/56 . Substrates having a particular shape, e.g. non-rectangular
2201/58 . Arrangements comprising a monitoring photodetector

2202/00 Materials and properties
2202/01 . dipole
2202/02 . organic material
2202/021 . . low molecular weight
2202/022 . . polymeric
2202/023 . . . curable
2202/025 . . . . thermocurable
2202/026 . . charge transfer complex
2202/027 . . Langmuir-Blodgett film
2202/028 . . photobleached
2202/04 . dye
2202/043 . . pleochroic
2202/046 . . fluorescent
2202/06 . dopant
2202/07 . poled
2202/08 . glass transition temperature
2202/09 . inorganic glass
2202/10 . semiconductor
2202/101 . . Ga×As and alloy
2202/102 . . In×P and alloy
2202/103 . . a-Si
2202/104 . . poly-Si
2202/105 . . single crystal Si
2202/106 . . Cd×Se or Cd×Te and alloys
2202/107 . . Zn×S or Zn×Se and alloys
2202/108 . . quantum wells
2202/12 . photoconductor
2202/13 . photorefractive
2202/14 . photochromic
2202/16 . conductive
2202/20 . $LiNbO_3$, $LiTaO_3$
2202/22 . Antistatic materials or arrangements
2202/28 . Adhesive materials or arrangements
2202/30 . Metamaterials
2202/32 . Photonic crystals
2202/34 . Metal hydrides materials
2202/36 . Micro- or nanomaterials
2202/38 . Sol-gel materials
2202/40 . Materials having a particular birefringence, retardation
2202/42 . Materials having a particular dielectric constant
2202/99 . Test HW

2203/00 Function characteristic
2203/01 . transmissive
2203/02 . reflective
2203/023 . . total internal reflection
2203/026 . . attenuated or frustated internal reflection
2203/03 . scattering
2203/04 . wavelength independent
2203/05 . wavelength dependent
2203/055 . . wavelength filtering
2203/06 . Polarisation independent
2203/07 . Polarisation dependent
2203/09 . transflective
2203/10 . plasmon
2203/11 . involving infrared radiation
2203/12 . spatial light modulator
2203/13 . involving THZ radiation
2203/15 . involving resonance effects, e.g. resonantly enhanced interaction
2203/16 . involving spin polarization effects
2203/17 . involving soliton waves
2203/18 . adaptive optics, e.g. wavefront correction
2203/19 . linearised modulation; reduction of harmonic distortions
2203/20 . Intrinsic phase difference, i.e. optical bias, of an optical modulator; Methods for the pre-set thereof
2203/21 . Thermal instability, i.e. DC drift, of an optical modulator; Arrangements or methods for the reduction thereof
2203/22 . diffractive
2203/24 . beam steering
2203/25 . Frequency chirping of an optical modulator; Arrangements or methods for the pre-set or tuning thereof
2203/255 . . Negative chirp
2203/26 . Pulse shaping; Apparatus or methods therefor
2203/28 . focussing or defocussing
2203/30 . Gray scale
2203/34 . Colour display without the use of colour mosaic filters
2203/48 . Variable attenuator
2203/50 . Phase-only modulation
2203/52 . Optical limiters
2203/54 . Optical pulse train (comb) synthesizer
2203/56 . Frequency comb synthesizer
2203/58 . Multi-wavelength, e.g. operation of the device at a plurality of wavelengths
2203/585 . . Add/drop devices
2203/60 . Temperature independent
2203/62 . Switchable arrangements whereby the element being usually not switchable
2203/64 . Normally black display, i.e. the off state being black
2203/66 . Normally white display, i.e. the off state being white
2203/68 . Green display, e.g. recycling, reduction of harmful substances
2203/69 . Arrangements or methods for testing or calibrating a device
2203/70 . Semiconductor optical amplifier [SOA] used in a device covered by G02F

2413/00 Indexing scheme related to G02F 1/13363, i.e. to birefringent elements, e.g. for optical compensation, characterised by the number, position, orientation or value of the compensation plates
2413/01 . Number of plates being 1
2413/02 . Number of plates being 2
2413/03 . Number of plates being 3
2413/04 . Number of plates greater than or equal to 4
2413/05 . Single plate on one side of the LC cell
2413/06 . Two plates on one side of the LC cell
2413/07 . All plates on one side of the LC cell
2413/08 . with a particular optical axis orientation
2413/09 . with a spatial distribution of the retardation value

2413/10 . with refractive index ellipsoid inclined, or tilted, relative to the LC-layer surface O plate

2413/105 . . with varying inclination in thickness direction, e.g. hybrid oriented discotic LC

2413/11 . The refractive index Nz perpendicular to the element surface being different from in-plane refractive indices Nx an Ny, e.g. C plate

2413/12 . Biaxial compensators

2413/13 . Positive birefingence

2413/14 . Negative birefingence

2413/15 . with twisted orientation, e.g. comprising helically oriented LC-molecules or a plurality of twisted birefringent sublayers