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000.0000 General

000.1200 Announcements, awards, news, and organizational activities
000.1410 Biography
000.1430 Biology and medicine
000.1570 Chemistry
000.1600 Classical and quantum physics
000.1780 Conferences, lectures, and institutes
000.2060 Education
000.2170 Equipment and techniques
000.2190 Experimental physics
000.2658 Fundamental tests
000.2690 General physics
000.2700 General science
000.2780 Gravity
000.2850 History and philosophy
000.3110 Instruments, apparatus, and components common to the sciences
000.3860 Mathematical methods in physics
000.3870 Mathematics
000.4430 Numerical approximation and analysis
000.4895 OSA history
000.4920 Other life sciences
000.4930 Other topics of general interest
000.5360 Physics literature and publications
000.5490 Probability theory, stochastic processes, and statistics
000.5920 Science and society
000.6590 Statistical mechanics
000.6800 Theoretical physics
000.6850 Thermodynamics

010.0010 Atmospheric and oceanic optics

010.0280 Remote sensing and sensors
010.1030 Absorption
010.1080 Active or adaptive optics
010.1100 Aerosol detection
010.1110 Aerosols
010.1120 Air pollution monitoring
010.1280 Atmospheric composition
010.1285 Atmospheric correction
010.1290 Atmospheric optics

010.1300 Atmospheric propagation
010.1310 Atmospheric scattering
010.1320 Atmospheric transmittance
010.1330 Atmospheric turbulence
010.1350 Backscattering
010.1615 Clouds
010.1690 Color
010.2940 Ice crystal phenomena
010.3310 Laser beam transmission
010.3640 Lidar
010.3920 Meteorology
010.4030 Mirages and refraction
010.4450 Oceanic optics
010.4455 Oceanic propagation
010.4458 Oceanic scattering
010.4950 Ozone
010.5620 Radiative transfer
010.5630 Radiometry
010.7030 Troposphere
010.7060 Turbulence
010.7295 Visibility and imaging
010.7340 Water
010.7350 Wave-front sensing

020.0020 Atomic and molecular physics

020.1335 Atom optics
020.1475 Bose-Einstein condensates
020.1670 Coherent optical effects
020.2070 Effects of collisions
020.2649 Strong field laser physics
020.2930 Hyperfine structure
020.3260 Isotope shifts
020.3320 Laser cooling
020.3690 Line shapes and shifts
020.4180 Multiphoton processes
020.4900 Oscillator strengths
020.5580 Quantum electrodynamics
020.5780 Rydberg states
020.6580 Stark effect
020.7010 Laser trapping
020.7490 Zeeman effect

030.0030 Coherence and statistical optics

030.1640 Coherence
030.1670 Coherent optical effects

030.4070 Modes
 030.4280 Noise in imaging systems
 030.5260 Photon counting
 030.5290 Photon statistics
 030.5620 Radiative transfer
 030.5630 Radiometry
 030.5770 Roughness
 030.6140 Speckle
 030.6600 Statistical optics
 030.6610 Stellar speckle interferometry
 030.7060 Turbulence

040.0040 Detectors

040.1240 Arrays
 040.1345 Avalanche photodiodes (APDs)
 040.1490 Cameras
 040.1520 CCD, charge-coupled device
 040.1880 Detection
 040.2235 Far infrared or terahertz
 040.2480 FLIR, forward-looking infrared
 040.2840 Heterodyne
 040.3060 Infrared
 040.3780 Low light level
 040.4200 Multiple quantum well
 040.5150 Photoconductivity
 040.5160 Photodetectors
 040.5190 Photographic film
 040.5250 Photomultipliers
 040.5350 Photovoltaic
 040.5570 Quantum detectors
 040.6040 Silicon
 040.6070 Solid state detectors
 040.6808 Thermal (uncooled) IR detectors,
 arrays and imaging
 040.7190 Ultraviolet
 040.7290 Video
 040.7480 X-rays, soft x-rays, extreme
 ultraviolet (EUV)

050.0050 Diffraction and gratings

050.1220 Apertures
 050.1380 Binary optics
 050.1590 Chirping
 050.1755 Computational electromagnetic
 methods

050.1930 Dichroism
 050.1940 Diffraction
 050.1950 Diffraction gratings
 050.1960 Diffraction theory
 050.1965 Diffractive lenses
 050.1970 Diffractive optics
 050.2065 Effective medium theory
 050.2230 Fabry-Perot
 050.2555 Form birefringence
 050.2770 Gratings
 050.4865 Optical vortices
 050.5080 Phase shift
 050.5082 Phase space in wave optics
 050.5298 Photonic crystals
 050.5745 Resonance domain
 050.6624 Subwavelength structures
 050.6875 Three-dimensional fabrication
 050.7330 Volume gratings

**060.0060 Fiber optics and optical
 communications**

060.1155 All-optical networks
 060.1660 Coherent communications
 060.1810 Buffers, couplers, routers, switches,
 and multiplexers
 060.2270 Fiber characterization
 060.2280 Fiber design and fabrication
 060.2290 Fiber materials
 060.2300 Fiber measurements
 060.2310 Fiber optics
 060.2320 Fiber optics amplifiers and
 oscillators
 060.2330 Fiber optics communications
 060.2340 Fiber optics components
 060.2350 Fiber optics imaging
 060.2360 Fiber optics links and subsystems
 060.2370 Fiber optics sensors
 060.2380 Fiber optics sources and detectors
 060.2390 Fiber optics, infrared
 060.2400 Fiber properties
 060.2410 Fibers, erbium
 060.2420 Fibers, polarization-maintaining
 060.2430 Fibers, single-mode
 060.2605 Free-space optical communication
 060.2630 Frequency modulation

060.2800	Gyroscopes	070.2465	Finite analogs of Fourier transforms
060.2840	Heterodyne	070.2575	Fractional Fourier transforms
060.2920	Homodyning	070.2580	Paraxial wave optics
060.3510	Lasers, fiber	070.2590	ABCD transforms
060.3735	Fiber Bragg gratings	070.2615	Frequency filtering
060.3738	Fiber Bragg gratings, photosensitivity	070.3185	Invariant optical fields
060.4005	Microstructured fibers	070.4340	Nonlinear optical signal processing
060.4080	Modulation	070.4550	Correlators
060.4230	Multiplexing	070.4560	Data processing by optical means
060.4250	Networks	070.4690	Morphological transformations
060.4251	Networks, assignment and routing algorithms	070.4790	Spectrum analysis
060.4252	Networks, broadcast	070.5010	Pattern recognition
060.4253	Networks, circuit-switched	070.5040	Phase conjugation
060.4254	Networks, combinatorial network design	070.5753	Resonators
060.4255	Networks, multicast	070.6020	Continuous optical signal processing
060.4256	Networks, network optimization	070.6110	Spatial filtering
060.4257	Networks, network survivability	070.6120	Spatial light modulators
060.4258	Networks, network topology	070.6760	Talbot and self-imaging effects
060.4259	Networks, packet-switched	070.7145	Ultrafast processing
060.4261	Networks, protection and restoration	070.7345	Wave propagation
060.4262	Networks, ring	070.7425	Quasi-probability distribution functions
060.4263	Networks, star		
060.4264	Networks, wavelength assignment	080.0080 Geometric optics	
060.4265	Networks, wavelength routing	080.1005	Aberration expansions
060.4370	Nonlinear optics, fibers	080.1010	Aberrations (global)
060.4510	Optical communications	080.1235	Apparent images
060.4785	Optical security and encryption	080.1238	Array waveguide devices
060.5060	Phase modulation	080.1510	Propagation methods
060.5295	Photonic crystal fibers	080.1665	Coherent design
060.5530	Pulse propagation and temporal solitons	080.1753	Computation methods
060.5565	Quantum communications	080.2175	Etendue
060.5625	Radio frequency photonics	080.2203	Fabrication, electroforming
060.6718	Switching, circuit	080.2205	Fabrication, injection molding
060.6719	Switching, packet	080.2208	Fabrication, tolerancing
060.7140	Ultrafast processes in fibers	080.2468	First-order optics
		080.2575	Fractional Fourier transforms
070.0070 Fourier optics and signal processing		080.2710	Inhomogeneous optical media
070.1060	Acousto-optical signal processing	080.2720	Mathematical methods (general)
070.1170	Analog optical signal processing	080.2730	Matrix methods in paraxial optics
070.1675	Coherent states (in wave optics)	080.2740	Geometric optical design
070.2025	Discrete optical signal processing	080.3095	Inhomogeneous elements in optical systems
		080.3620	Lens system design
		080.3630	Lenses

080.3645	Lie algebraic and group methods	100.2810	Halftone image reproduction
080.3685	Lightpipes	100.2960	Image analysis
080.3875	Matrix methods in metaxial expansions	100.2980	Image enhancement
080.4035	Mirror system design	100.3005	Image recognition devices
080.4225	Nonspherical lens design	100.3008	Image recognition, algorithms and filters
080.4228	Nonspherical mirror surfaces	100.3010	Image reconstruction techniques
080.4295	Nonimaging optical systems	100.3020	Image reconstruction-restoration
080.4298	Nonimaging optics	100.3175	Interferometric imaging
080.4865	Optical vortices	100.3190	Inverse problems
080.5084	Phase space methods of analysis	100.3200	Inverse scattering
080.5692	Ray trajectories in inhomogeneous media	100.4145	Motion, hyperspectral image processing
080.6755	Systems with special symmetry	100.4550	Correlators
080.7343	Wave dressing of rays	100.4992	Pattern, nonlinear correlators
		100.4993	Pattern recognition, Bayesian processors
		100.4994	Pattern recognition, image transforms
		100.4995	Pattern recognition, metrics
		100.4996	Pattern recognition, neural networks
		100.4997	Pattern recognition, nonlinear spatial filters
		100.4998	Pattern recognition, optical security and encryption
		100.4999	Pattern recognition, target tracking
		100.5010	Pattern recognition
		100.5070	Phase retrieval
		100.5088	Phase unwrapping
		100.5090	Phase-only filters
		100.5760	Rotation-invariant pattern recognition
		100.6640	Superresolution
		100.6740	Synthetic discrimination functions
		100.6890	Three-dimensional image processing
		100.6950	Tomographic image processing
		100.7410	Wavelets
090.0090	Holography		
090.1000	Aberration compensation		
090.1705	Color holography		
090.1760	Computer holography		
090.1970	Diffraction optics		
090.1995	Digital holography		
090.2645	Stratified volume holograms		
090.2820	Heads-up displays		
090.2870	Holographic display		
090.2880	Holographic interferometry		
090.2890	Holographic optical elements		
090.2900	Optical storage materials		
090.2910	Holography, microwave		
090.4220	Multiplex holography		
090.5640	Rainbow holography		
090.5694	Real-time holography		
090.6186	Spectral holography		
090.7330	Volume gratings		
100.0100	Image processing		
100.0118	Imaging ultrafast phenomena		
100.1160	Analog optical image processing		
100.1390	Binary phase-only filters		
100.1455	Blind deconvolution		
100.1830	Deconvolution		
100.1930	Dichroism		
100.2000	Digital image processing		
100.2550	Focal-plane-array image processors		
100.2650	Fringe analysis		
		110.0110	Imaging systems
		110.0113	Imaging through turbid media
		110.0115	Imaging through turbulent media
		110.0180	Microscopy
		110.1080	Active or adaptive optics
		110.1085	Adaptive imaging
		110.1220	Apertures

110.1455	Blind deconvolution	110.6955	Tomographic imaging
110.1650	Coherence imaging	110.6960	Tomography
110.1758	Computational imaging	110.6980	Transforms
110.2350	Fiber optics imaging	110.7050	Turbid media
110.2650	Fringe analysis	110.7170	Ultrasound
110.2760	Gradient-index lenses	110.7348	Wavefront encoding
110.2945	Illumination design	110.7410	Wavelets
110.2960	Image analysis	110.7440	X-ray imaging
110.2970	Image detection systems		
110.2990	Image formation theory		
110.3000	Image quality assessment	120.0120	Instrumentation, measurement, and
110.3010	Image reconstruction techniques	metrology	
110.3055	Information theoretical analysis	120.0280	Remote sensing and sensors
110.3080	Infrared imaging	120.1088	Adaptive interferometry
110.3175	Interferometric imaging	120.1680	Collimation
110.3200	Inverse scattering	120.1740	Combustion diagnostics
110.3925	Metrics	120.1840	Densitometers, reflectometers
110.3960	Microlithography	120.1880	Detection
110.4100	Modulation transfer function	120.2040	Displays
110.4153	Motion estimation and optical flow	120.2130	Ellipsometry and polarimetry
110.4155	Multiframe image processing	120.2230	Fabry-Perot
110.4190	Multiple imaging	120.2440	Filters
110.4234	Multispectral and hyperspectral imaging	120.2650	Fringe analysis
110.4235	Nanolithography	120.2820	Heads-up displays
110.4248	Networked imaging	120.2830	Height measurements
110.4280	Noise in imaging systems	120.2880	Holographic interferometry
110.4500	Optical coherence tomography	120.2920	Homodyning
110.4850	Optical transfer functions	120.3150	Integrating spheres
110.4980	Partial coherence in imaging	120.3180	Interferometry
110.5086	Phase unwrapping	120.3620	Lens system design
110.5100	Phased-array imaging systems	120.3688	Lightwave analyzers
110.5120	Photoacoustic imaging	120.3890	Medical optics instrumentation
110.5125	Photoacoustics	120.3930	Metrological instrumentation
110.5200	Photography	120.3940	Metrology
110.5220	Photolithography	120.4120	Moire' techniques
110.5405	Polarimetric imaging	120.4140	Monochromators
110.6150	Speckle imaging	120.4290	Nondestructive testing
110.6760	Talbot and self-imaging effects	120.4530	Optical constants
110.6770	Telescopes	120.4570	Optical design of instruments
110.6795	Terahertz imaging	120.4610	Optical fabrication
110.6820	Thermal imaging	120.4630	Optical inspection
110.6880	Three-dimensional image acquisition	120.4640	Optical instruments
110.6895	Three-dimensional lithography	120.4800	Optical standards and testing
110.6915	Time imaging	120.4820	Optical systems
		120.4825	Optical time domain reflectometry
		120.4880	Optomechanics

120.5050	Phase measurement	130.5460	Polymer waveguides
120.5060	Phase modulation	130.5990	Semiconductors
120.5240	Photometry	130.6010	Sensors
120.5410	Polarimetry	130.6622	Subsystem integration and techniques
120.5475	Pressure measurement		
120.5630	Radiometry	130.6750	Systems
120.5700	Reflection	130.7405	Wavelength conversion devices
120.5710	Refraction	130.7408	Wavelength filtering devices
120.5790	Sagnac effect		
120.5800	Scanners		
120.5820	Scattering measurements		
120.6085	Space instrumentation		
120.6150	Speckle imaging		
120.6160	Speckle interferometry		
120.6165	Speckle interferometry, metrology		
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120.6200	Spectrometers and spectroscopic instrumentation		
120.6650	Surface measurements, figure		
120.6660	Surface measurements, roughness		
120.6710	Susceptibility		
120.6780	Temperature		
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120.7000	Transmission		
120.7250	Velocimetry		
120.7280	Vibration analysis		
130.0130	Integrated optics		
130.0250	Optoelectronics		
130.1750	Components		
130.2035	Dispersion compensation devices		
130.2260	Ferroelectrics		
130.2755	Glass waveguides		
130.2790	Guided waves		
130.3060	Infrared		
130.3120	Integrated optics devices		
130.3130	Integrated optics materials		
130.3730	Lithium niobate		
130.3750	Optical logic devices		
130.3990	Micro-optical devices		
130.4110	Modulators		
130.4310	Nonlinear		
130.4815	Optical switching devices		
130.5296	Photonic crystal waveguides		
130.5440	Polarization-selective devices		
		140.0140	Lasers and laser optics
		140.1340	Atomic gas lasers
		140.1540	Chaos
		140.1550	Chemical lasers
		140.1700	Color center lasers
		140.2010	Diode laser arrays
		140.2020	Diode lasers
		140.2050	Dye lasers
		140.2180	Excimer lasers
		140.2600	Free-electron lasers (FELs)
		140.3070	Infrared and far-infrared lasers
		140.3210	Ion lasers
		140.3280	Laser amplifiers
		140.3290	Laser arrays
		140.3295	Laser beam characterization
		140.3298	Laser beam combining
		140.3300	Laser beam shaping
		140.3320	Laser cooling
		140.3325	Laser coupling
		140.3330	Laser damage
		140.3360	Laser safety and eye protection
		140.3370	Laser gyroscopes
		140.3380	Laser materials
		140.3390	Laser materials processing
		140.3410	Laser resonators
		140.3425	Laser stabilization
		140.3430	Laser theory
		140.3440	Laser-induced breakdown
		140.3450	Laser-induced chemistry
		140.3460	Lasers
		140.3470	Lasers, carbon dioxide
		140.3480	Lasers, diode-pumped
		140.3490	Lasers, distributed-feedback
		140.3500	Lasers, erbium
		140.3510	Lasers, fiber
		140.3515	Lasers, frequency doubled

160.5298 Photonic crystals
 160.5320 Photorefractive materials
 160.5335 Photosensitive materials
 160.5470 Polymers
 160.5690 Rare-earth-doped materials
 160.6000 Semiconductor materials
 160.6030 Silica
 160.6060 Solgel
 160.6840 Thermo-optical materials
 160.6990 Transition-metal-doped materials

170.0170 Medical optics and biotechnology

170.0110 Imaging systems
 170.0180 Microscopy
 170.1020 Ablation of tissue
 170.1065 Acousto-optics
 170.1420 Biology
 170.1460 Blood gas monitoring
 170.1470 Blood or tissue constituent
 monitoring
 170.1530 Cell analysis
 170.1580 Chemometrics
 170.1610 Clinical applications
 170.1630 Coded aperture imaging
 170.1650 Coherence imaging
 170.1790 Confocal microscopy
 170.1850 Dentistry
 170.1870 Dermatology
 170.2150 Endoscopic imaging
 170.2520 Fluorescence microscopy
 170.2655 Functional monitoring and imaging
 170.2670 Gamma ray imaging
 170.2680 Gastrointestinal
 170.2945 Illumination design
 170.3010 Image reconstruction techniques
 170.3340 Laser Doppler velocimetry
 170.3650 Lifetime-based sensing
 170.3660 Light propagation in tissues
 170.3830 Mammography
 170.3880 Medical and biological imaging
 170.3890 Medical optics instrumentation
 170.4090 Modulation techniques
 170.4440 ObGyn
 170.4460 Ophthalmic optics and devices
 170.4470 Ophthalmology

170.4500 Optical coherence tomography
 170.4520 Optical confinement and
 manipulation
 170.4580 Optical diagnostics for medicine
 170.4730 Optical pathology
 170.4940 Otolaryngology
 170.5120 Photoacoustic imaging
 170.5180 Photodynamic therapy
 170.5270 Photon density waves
 170.5280 Photon migration
 170.5380 Physiology
 170.5660 Raman spectroscopy
 170.5755 Retina scanning
 170.5810 Scanning microscopy
 170.6280 Spectroscopy, fluorescence and
 luminescence
 170.6480 Spectroscopy, speckle
 170.6510 Spectroscopy, tissue diagnostics
 170.6795 Terahertz imaging
 170.6900 Three-dimensional microscopy
 170.6920 Time-resolved imaging
 170.6930 Tissue
 170.6935 Tissue characterization
 170.6940 Tissue welding
 170.6960 Tomography
 170.7050 Turbid media
 170.7160 Ultrafast technology
 170.7170 Ultrasound
 170.7180 Ultrasound diagnostics
 170.7230 Urology
 170.7440 X-ray imaging

180.0180 Microscopy

180.1655 Coherence tomography
 180.1790 Confocal microscopy
 180.2520 Fluorescence microscopy
 180.3170 Interference microscopy
 180.4243 Near-field microscopy
 180.4315 Nonlinear microscopy
 180.5655 Raman microscopy
 180.5810 Scanning microscopy
 180.6900 Three-dimensional microscopy
 180.7460 X-ray microscopy

190.0190 Nonlinear optics

- 190.1450 Bistability
- 190.1900 Diagnostic applications of nonlinear optics
- 190.2055 Dynamic gratings
- 190.2620 Harmonic generation and mixing
- 190.2640 Stimulated scattering, modulation, etc.
- 190.3100 Instabilities and chaos
- 190.3270 Kerr effect
- 190.3970 Microparticle nonlinear optics
- 190.4160 Multiharmonic generation
- 190.4180 Multiphoton processes
- 190.4223 Nonlinear wave mixing
- 190.4350 Nonlinear optics at surfaces
- 190.4360 Nonlinear optics, devices
- 190.4370 Nonlinear optics, fibers
- 190.4380 Nonlinear optics, four-wave mixing
- 190.4390 Nonlinear optics, integrated optics
- 190.4400 Nonlinear optics, materials
- 190.4410 Nonlinear optics, parametric processes
- 190.4420 Nonlinear optics, transverse effects in
- 190.4710 Optical nonlinearities in organic materials
- 190.4720 Optical nonlinearities of condensed matter
- 190.4870 Photothermal effects
- 190.4970 Parametric oscillators and amplifiers
- 190.4975 Parametric processes
- 190.5040 Phase conjugation
- 190.5330 Photorefractive optics
- 190.5530 Pulse propagation and temporal solitons
- 190.5650 Raman effect
- 190.5890 Scattering, stimulated
- 190.5940 Self-action effects
- 190.5970 Semiconductor nonlinear optics including MQW
- 190.6135 Spatial solitons
- 190.7070 Two-wave mixing
- 190.7110 Ultrafast nonlinear optics
- 190.7220 Upconversion

200.0200 Optics in computing

- 200.1130 Algebraic optical processing
- 200.2605 Free-space optical communication
- 200.2610 Free-space digital optics
- 200.3050 Information processing
- 200.3760 Logic-based optical processing
- 200.4260 Neural networks
- 200.4490 Optical buffers
- 200.4540 Optical content addressable memory processors
- 200.4560 Optical data processing
- 200.4650 Optical interconnects
- 200.4660 Optical logic
- 200.4690 Morphological transformations
- 200.4700 Optical neural systems
- 200.4740 Optical processing
- 200.4860 Optical vector-matrix systems
- 200.4880 Optomechanics
- 200.4960 Parallel processing
- 200.6015 Signal regeneration
- 200.6046 Smart pixel systems
- 200.6715 Switching

210.0210 Optical data storage

- 210.1635 Coding for optical storage
- 210.2860 Holographic and volume memories
- 210.3810 Magneto-optic systems
- 210.3820 Magneto-optical materials
- 210.4245 Near-field optical recording
- 210.4590 Optical disks
- 210.4680 Optical memories
- 210.4770 Optical recording
- 210.4810 Optical storage-recording materials
- 210.4965 Parallel readout

220.0220 Optical design and fabrication

- 220.1000 Aberration compensation
- 220.1010 Aberrations (global)
- 220.1080 Active or adaptive optics
- 220.1140 Alignment
- 220.1230 Apodization
- 220.1250 Aspherics
- 220.1770 Concentrators
- 220.1920 Diamond machining

220.2560	Propagating methods	230.4685	Optical microelectromechanical devices
220.2740	Geometric optical design		
220.2945	Illumination design	230.4910	Oscillators
220.3620	Lens system design	230.5160	Photodetectors
220.3630	Lenses	230.5170	Photodiodes
220.3740	Lithography	230.5298	Photonic crystals
220.4000	Microstructure fabrication	230.5440	Polarization-selective devices
220.4241	Nanostructure fabrication	230.5480	Prisms
220.4298	Nonimaging optics	230.5590	Quantum-well, -wire and -dot devices
220.4610	Optical fabrication		
220.4830	Systems design	230.5750	Resonators
220.4840	Testing	230.6046	Smart pixel systems
220.4880	Optomechanics	230.6080	Sources
220.5450	Polishing	230.6120	Spatial light modulators

230.0230 Optical devices

230.0040	Detectors
230.0250	Optoelectronics
230.1040	Acousto-optical devices
230.1150	All-optical devices
230.1360	Beam splitters
230.1480	Bragg reflectors
230.1950	Diffraction gratings
230.1980	Diffusers
230.2035	Dispersion compensation devices
230.2090	Electro-optical devices
230.2240	Faraday effect
230.2285	Fiber devices and optical amplifiers
230.3120	Integrated optics devices
230.3205	Invisibility cloaks
230.3240	Isolators
230.3670	Light-emitting diodes
230.3720	Liquid-crystal devices
230.3750	Optical logic devices
230.3810	Magneto-optic systems
230.3990	Micro-optical devices
230.4000	Microstructure fabrication
230.4040	Mirrors
230.4110	Modulators
230.4170	Multilayers
230.4205	Multiple quantum well (MQW) modulators
230.4320	Nonlinear optical devices
230.4480	Optical amplifiers
230.4555	Coupled resonators

230.4685	Optical microelectromechanical devices
230.4910	Oscillators
230.5160	Photodetectors
230.5170	Photodiodes
230.5298	Photonic crystals
230.5440	Polarization-selective devices
230.5480	Prisms
230.5590	Quantum-well, -wire and -dot devices
230.5750	Resonators
230.6046	Smart pixel systems
230.6080	Sources
230.6120	Spatial light modulators
230.7020	Traveling-wave devices
230.7370	Waveguides
230.7380	Waveguides, channeled
230.7390	Waveguides, planar
230.7400	Waveguides, slab
230.7405	Wavelength conversion devices
230.7408	Wavelength filtering devices

240.0240 Optics at surfaces

240.0310	Thin films
240.1485	Buried interfaces
240.2130	Ellipsometry and polarimetry
240.3695	Linear and nonlinear light scattering from surfaces
240.3990	Micro-optical devices
240.4350	Nonlinear optics at surfaces
240.5420	Polaritons
240.5440	Polarization-selective devices
240.5450	Polishing
240.5698	Reflectance anisotropy spectroscopy
240.5770	Roughness
240.6380	Spectroscopy, modulation
240.6490	Spectroscopy, surface
240.6645	Surface differential reflectance
240.6648	Surface dynamics
240.6670	Surface photochemistry
240.6675	Surface photoemission and photoelectron spectroscopy
240.6680	Surface plasmons
240.6690	Surface waves
240.6695	Surface-enhanced Raman scattering

240.6700	Surfaces	260.3160	Interference
240.7040	Tunneling	260.3230	Ionization
		260.3800	Luminescence
250.0250	Optoelectronics	260.3910	Metal optics
250.0040	Detectors	260.5130	Photochemistry
250.1345	Avalanche photodiodes (APDs)	260.5150	Photoconductivity
250.1500	Cathodoluminescence	260.5210	Photoionization
250.2080	Polymer active devices	260.5430	Polarization
250.3140	Integrated optoelectronic circuits	260.5740	Resonance
250.3680	Light-emitting polymers	260.5950	Self-focusing
250.3750	Optical logic devices	260.6042	Singular optics
250.4110	Modulators	260.6048	Soft x-rays
250.4390	Nonlinear optics, integrated optics	260.6580	Stark effect
250.4480	Optical amplifiers	260.6970	Total internal reflection
250.4745	Optical processing devices	260.7120	Ultrafast phenomena
250.5230	Photoluminescence	260.7190	Ultraviolet
250.5300	Photonic integrated circuits	260.7200	Ultraviolet, extreme
250.5403	Plasmonics	260.7210	Ultraviolet, vacuum
250.5460	Polymer waveguides	260.7490	Zeeman effect
250.5530	Pulse propagation and temporal solitons		
250.5590	Quantum-well, -wire and -dot devices	270.0270	Quantum optics
250.5960	Semiconductor lasers	270.1670	Coherent optical effects
250.5980	Semiconductor optical amplifiers	270.2500	Fluctuations, relaxations, and noise
250.6715	Switching	270.3100	Instabilities and chaos
250.7260	Vertical cavity surface emitting lasers	270.3430	Laser theory
250.7270	Vertical emitting lasers	270.4180	Multiphoton processes
250.7360	Waveguide modulators	270.5290	Photon statistics
		270.5530	Pulse propagation and temporal solitons
260.0260	Physical optics	270.5565	Quantum communications
260.1180	Crystal optics	270.5568	Quantum cryptography
260.1440	Birefringence	270.5570	Quantum detectors
260.1560	Chemiluminescence	270.5580	Quantum electrodynamics
260.1960	Diffraction theory	270.5585	Quantum information and processing
260.2030	Dispersion	270.6570	Squeezed states
260.2065	Effective medium theory	270.6620	Strong-field processes
260.2110	Electromagnetic optics	270.6630	Superradiance, superfluorescence
260.2130	Ellipsometry and polarimetry		
260.2160	Energy transfer	280.0280	Remote sensing and sensors
260.2510	Fluorescence	280.1100	Aerosol detection
260.2710	Inhomogeneous optical media	280.1120	Air pollution monitoring
260.3060	Infrared	280.1310	Atmospheric scattering
260.3090	Infrared, far	280.1350	Backscattering
		280.1355	Bathymetry

280.1415	Biological sensing and sensors	290.5839	Scattering, invisibility
280.1545	Chemical analysis	290.5840	Scattering, molecules
280.1740	Combustion diagnostics	290.5845	Scattering, out-of-field
280.1910	DIAL, differential absorption lidar	290.5850	Scattering, particles
280.2470	Flames	290.5855	Scattering, polarization
280.2490	Flow diagnostics	290.5860	Scattering, Raman
280.3340	Laser Doppler velocimetry	290.5870	Scattering, Rayleigh
280.3375	Laser induced ultrasonics	290.5880	Scattering, rough surfaces
280.3400	Laser range finder	290.5890	Scattering, stimulated
280.3420	Laser sensors	290.5900	Scattering, stimulated Brillouin
280.3640	Lidar	290.5910	Scattering, stimulated Raman
280.4750	Optical processing of radar images	290.5930	Scintillation
280.4788	Optical sensing and sensors	290.6815	Thermal emission
280.4991	Passive remote sensing	290.7050	Turbid media
280.5110	Phased-array radar		
280.5395	Plasma diagnostics	300.0300 Spectroscopy	
280.5475	Pressure measurement	300.1030	Absorption
280.5600	Radar	300.2140	Emission
280.5715	Refractivity profiles	300.2530	Fluorescence, laser-induced
280.6730	Synthetic aperture radar	300.2570	Four-wave mixing
280.6780	Temperature	300.3700	Linewidth
280.7060	Turbulence	300.6075	Sonoluminescence
280.7250	Velocimetry	300.6170	Spectra
		300.6190	Spectrometers
290.0290 Scattering		300.6210	Spectroscopy, atomic
290.1090	Aerosol and cloud effects	300.6220	Spectroscopy, beam foil
290.1310	Atmospheric scattering	300.6230	Spectroscopy, coherent anti-Stokes Raman scattering
290.1350	Backscattering		
290.1483	BSDF, BRDF, and BTDF	300.6240	Spectroscopy, coherent transient
290.1990	Diffusion	300.6250	Spectroscopy, condensed matter
290.2200	Extinction	300.6260	Spectroscopy, diode lasers
290.2558	Forward scattering	300.6270	Spectroscopy, far infrared
290.2648	Stray light	300.6280	Spectroscopy, fluorescence and luminescence
290.2745	Ghost reflections		
290.3030	Index measurements	300.6290	Spectroscopy, four-wave mixing
290.3200	Inverse scattering	300.6300	Spectroscopy, Fourier transforms
290.3700	Linewidth	300.6310	Spectroscopy, heterodyne
290.3770	Long-wave scattering	300.6320	Spectroscopy, high-resolution
290.4020	Mie theory	300.6330	Spectroscopy, inelastic scattering including Raman
290.4210	Multiple scattering		
290.5820	Scattering measurements	300.6340	Spectroscopy, infrared
290.5825	Scattering theory	300.6350	Spectroscopy, ionization
290.5830	Scattering, Brillouin	300.6360	Spectroscopy, laser
290.5835	Scattering, Harvey	300.6365	Spectroscopy, laser induced breakdown
290.5838	Scattering, in-field		

300.6370 Spectroscopy, microwave
 300.6380 Spectroscopy, modulation
 300.6390 Spectroscopy, molecular
 300.6400 Spectroscopy, molecular beam
 300.6410 Spectroscopy, multiphoton
 300.6420 Spectroscopy, nonlinear
 300.6430 Spectroscopy, photothermal
 300.6440 Spectroscopy, optogalvanic
 300.6450 Spectroscopy, Raman
 300.6460 Spectroscopy, saturation
 300.6470 Spectroscopy, semiconductors
 300.6480 Spectroscopy, speckle
 300.6490 Spectroscopy, surface
 300.6495 Spectroscopy, terahertz
 300.6500 Spectroscopy, time-resolved
 300.6520 Spectroscopy, trapped ion
 300.6530 Spectroscopy, ultrafast
 300.6540 Spectroscopy, ultraviolet
 300.6550 Spectroscopy, visible
 300.6560 Spectroscopy, x-ray

310.0310 Thin films

310.1210 Antireflection coatings
 310.1515 Protective coatings
 310.1620 Interference coatings
 310.1860 Deposition and fabrication
 310.2785 Guided wave applications
 310.2790 Guided waves
 310.3840 Materials and process
 characterization
 310.3915 Metallic, opaque, and absorbing
 coatings
 310.4165 Multilayer design
 310.4925 Other properties (stress, chemical,
 etc.)
 310.5448 Polarization, other optical properties
 310.5696 Refinement and synthesis methods
 310.6188 Spectral properties
 310.6628 Subwavelength structures,
 nanostructures
 310.6805 Theory and design
 310.6845 Thin film devices and applications
 310.6860 Thin films, optical properties
 310.6870 Thin films, other properties
 310.7005 Transparent conductive coatings

320.0320 Ultrafast optics

320.1590 Chirping
 320.2250 Femtosecond phenomena
 320.3980 Microsecond phenomena
 320.4240 Nanosecond phenomena
 320.5390 Picosecond phenomena
 320.5520 Pulse compression
 320.5540 Pulse shaping
 320.5550 Pulses
 320.6629 Supercontinuum generation
 320.7080 Ultrafast devices
 320.7085 Ultrafast information processing
 320.7090 Ultrafast lasers
 320.7100 Ultrafast measurements
 320.7110 Ultrafast nonlinear optics
 320.7120 Ultrafast phenomena
 320.7130 Ultrafast processes in condensed
 matter, including semiconductors
 320.7140 Ultrafast processes in fibers
 320.7150 Ultrafast spectroscopy
 320.7160 Ultrafast technology

330.0330 Vision, color, and visual optics

330.1070 Vision - acuity
 330.1400 Vision - binocular and stereopsis
 330.1690 Color
 330.1710 Color, measurement
 330.1715 Color, rendering and metamerism
 330.1720 Color vision
 330.1730 Colorimetry
 330.1800 Vision - contrast sensitivity
 330.1880 Detection
 330.2210 Vision - eye movements
 330.3350 Vision - laser damage
 330.3790 Low vision
 330.3795 Low-vision optics
 330.4060 Vision modeling
 330.4150 Motion detection
 330.4270 Vision system neurophysiology
 330.4300 Vision system - noninvasive
 assessment
 330.4460 Ophthalmic optics and devices
 330.4595 Optical effects on vision
 330.4875 Optics of physiological systems
 330.5000 Vision - patterns and recognition

330.5020	Perception psychology	350.2450	Filters, absorption
330.5310	Vision - photoreceptors	350.2460	Filters, interference
330.5370	Physiological optics	350.2660	Fusion
330.5380	Physiology	350.2770	Gratings
330.5510	Psychophysics	350.3250	Isotope separation
330.6100	Spatial discrimination	350.3390	Laser materials processing
330.6110	Spatial filtering	350.3450	Laser-induced chemistry
330.6130	Spatial resolution	350.3618	Left-handed materials
330.6180	Spectral discrimination	350.3850	Materials processing
330.6790	Temporal discrimination	350.3950	Micro-optics
330.7310	Vision	350.4010	Microwaves
330.7320	Vision adaptation	350.4238	Nanophotonics and photonic crystals
330.7321	Vision coupled optical systems		
330.7322	Visual optics, accommodation	350.4600	Optical engineering
330.7323	Visual optics, aging changes	350.4800	Optical standards and testing
330.7324	Visual optics, comparative animal models	350.4855	Optical tweezers or optical manipulation
330.7325	Visual optics, metrology	350.4990	Particles
330.7326	Visual optics, modeling	350.5030	Phase
330.7327	Visual optics, ophthalmic instrumentation	350.5130	Photochemistry
330.7328	Visual optics, ophthalmic appliances	350.5340	Photothermal effects
330.7329	Visual optics, pathology	350.5400	Plasmas
330.7331	Visual optics, receptor optics	350.5500	Propagation
330.7333	Visual optics, refractive anomalies	350.5610	Radiation
330.7335	Visual optics, refractive surgery	350.5720	Relativity
330.7338	Visually coupled optical systems	350.5730	Resolution
		350.6050	Solar energy
		350.6090	Space optics
		350.6670	Surface photochemistry
		350.6830	Thermal lensing
		350.6980	Transforms
		350.7420	Waves
340.0340	X-ray optics		
340.1365	Bending magnet radiation		
340.6720	Synchrotron radiation		
340.7215	Undulator radiation		
340.7430	X-ray coded apertures		
340.7440	X-ray imaging		
340.7450	X-ray interferometry		
340.7460	X-ray microscopy		
340.7470	X-ray mirrors		
340.7480	X-rays, soft x-rays, extreme ultraviolet (EUV)		
350.0350	Other areas of optics		
350.1260	Astronomical optics		
350.1270	Astronomy and astrophysics		
350.1370	Berry's phase		
350.1820	Damage		