Symbol	Typ	Titel
H	**Sektion**	**SECTION H — ELECTRICITY**
H01	**Klasse**	**BASIC ELECTRIC ELEMENTS**
H01S	**Unterklasse**	**DEVICES USING STIMULATED EMISSION**
H01S 1/00	**Hauptgruppe**	**Masers, i.e. devices for generation, amplification, modulation, demodulation, or frequency-changing, using stimulated emission, of electromagnetic waves of wavelength longer than that of infra-red waves**
H01S 1/02	1-Punkt Untergruppe	. solid
H01S 1/04	1-Punkt Untergruppe	. liquid
H01S 1/06	1-Punkt Untergruppe	. gaseous
H01S 3/00	**Hauptgruppe**	**Lasers, i.e. devices for generation, amplification, modulation, demodulation, or frequency-changing, using stimulated emission, of infra-red, visible, or ultra-violet waves (semiconductor lasers H01S 5/00)**
H01S 3/02	1-Punkt Untergruppe	. Constructional details
H01S 3/03	2-Punkt Untergruppe	. . of gas laser discharge tubes [2]
H01S 3/032	3-Punkt Untergruppe	. . . for confinement of the discharge, e.g. by special features of the discharge constricting tube [5]
H01S 3/034	3-Punkt Untergruppe	. . . Optical devices within, or forming part of, the tube, e.g. windows, mirrors (reflectors having variable properties or positions for initial adjustment of the resonator H01S 3/086) [5]
H01S 3/036	3-Punkt Untergruppe	. . . Means for obtaining or maintaining the desired gas pressure within the tube, e.g. by gettering, replenishing; Means for circulating the gas, e.g. for equalising the pressure within the tube (cooling arrangements for gas lasers H01S 3/041; gas dynamic lasers H01S 3/0979) [5]
H01S 3/038	3-Punkt Untergruppe	. . . Electrodes, e.g. special shape, configuration or composition [5]
H01S 3/04	2-Punkt Untergruppe	. . Cooling arrangements
H01S 3/041	3-Punkt Untergruppe	. . . for gas lasers [5]
H01S 3/042	3-Punkt Untergruppe	. . . for solid state lasers [5]
H01S 3/05	1-Punkt Untergruppe	. Construction or shape of optical resonators; Accommodation of active medium therein; Shape of active medium
H01S 3/06	2-Punkt Untergruppe	. . Construction or shape of active medium
H01S 3/063	3-Punkt Untergruppe	. . . Waveguide lasers, e.g. laser amplifiers [7]
H01S 3/067	4-Punkt Untergruppe	. . . . Fibre lasers [7]
H01S 3/07	3-Punkt Untergruppe	. . . consisting of a plurality of parts, e.g. segments (H01S 3/067 takes precedence) [2, 7]
H01S 3/08	2-Punkt Untergruppe	. . Construction or shape of optical resonators or components thereof [2]
H01S 3/081	3-Punkt Untergruppe	. . . comprising more than two reflectors [2]
H01S 3/082	4-Punkt Untergruppe	. . . . defining a plurality of resonators, e.g. for mode selection [2]
H01S 3/083	4-Punkt Untergruppe	. . . . Ring lasers (ring laser gyrometers G01C 19/66) [2]
H01S 3/086	3-Punkt Untergruppe	. . . One or more reflectors having variable properties or positions for initial adjustment of the resonator (varying a parameter of the laser output during operation H01S 3/10; stabilisation of the laser output H01S 3/13) [2]

Symbol	Typ	Titel
H01S 3/09	1-Punkt Untergruppe	. Processes or apparatus for excitation, e.g. pumping
H01S 3/091	2-Punkt Untergruppe	. . using optical pumping [2]
H01S 3/0915	3-Punkt Untergruppe	. . . by incoherent light [5]
H01S 3/092	4-Punkt Untergruppe	. . . . of flash lamp (H01S 3/0937 takes precedence) [2, 5]
H01S 3/093	5-Punkt Untergruppe	. . . . . focusing or directing the excitation energy into the active medium [2, 5]
H01S 3/0933	4-Punkt Untergruppe	. . . . of a semiconductor, e.g. light emitting diode [5]
H01S 3/0937	4-Punkt Untergruppe	. . . . produced by exploding or combustible material [5]
H01S 3/094	3-Punkt Untergruppe	. . . by coherent light [2]
H01S 3/0941	4-Punkt Untergruppe	. . . . of a semiconductor laser, e.g. of a laser diode [6]
H01S 3/0943	4-Punkt Untergruppe	. . . . of a gas laser [5]
H01S 3/0947	4-Punkt Untergruppe	. . . . of an organic dye laser [5]
H01S 3/095	2-Punkt Untergruppe	. . using chemical or thermal pumping [2]
H01S 3/0951	3-Punkt Untergruppe	. . . by increasing the pressure in the laser gas medium [5]
H01S 3/0953	4-Punkt Untergruppe	. . . . Gas dynamic lasers, i.e. with expansion of the laser gas medium to supersonic flow speeds [5]
H01S 3/0955	2-Punkt Untergruppe	. . using pumping by high energy particles [5]
H01S 3/0957	3-Punkt Untergruppe	. . . by high energy nuclear particles [5]
H01S 3/0959	3-Punkt Untergruppe	. . . by an electron beam [5]
H01S 3/097	2-Punkt Untergruppe	. . by gas discharge of a gas laser [2]
H01S 3/0971	3-Punkt Untergruppe	. . . transversely excited (H01S 3/0975 takes precedence) [5]
H01S 3/0973	4-Punkt Untergruppe	. . . . having a travelling wave passing through the active medium [5]
H01S 3/0975	3-Punkt Untergruppe	. . . using inductive or capacitive excitation [5]
H01S 3/0977	3-Punkt Untergruppe	. . . having auxiliary ionisation means [5]
H01S 3/0979	3-Punkt Untergruppe	. . . Gas dynamic lasers, i.e. with expansion of the laser gas medium to supersonic flow speeds [5]
H01S 3/098	1-Punkt Untergruppe	. Mode locking; Mode suppression (mode suppression using a plurality of resonators H01S 3/082) [2]
H01S 3/10	1-Punkt Untergruppe	. Controlling the intensity, frequency, phase, polarisation or direction of the emitted radiation, e.g. switching, gating, modulating or demodulating (mode locking H01S 3/098; controlling of light beams, frequency-changing, non-linear optics, optical logic elements, in general G02F) [2]
H01S 3/101	2-Punkt Untergruppe	. . Lasers provided with means to change the location from which, or the direction in which, laser radiation is emitted (optical scanning systems in general G02B 26/10; devices or arrangements for the electro-, magneto-, or acousto-optical deflection G02F 1/29) [2]
H01S 3/102	2-Punkt Untergruppe	. . by controlling the active medium, e.g. by controlling the processes or apparatus for excitation (H01S 3/13 takes precedence) [4]
H01S 3/104	3-Punkt Untergruppe	. . . in gas lasers [4]
H01S 3/105	2-Punkt Untergruppe	. . by controlling the mutual position or the reflecting properties of the reflectors of the cavity (H01S 3/13 takes precedence) [4]

Symbol	Typ	Titel
H01S 3/1055	3-Punkt Untergruppe	. . . one of the reflectors being constituted by a diffraction grating [4]
H01S 3/106	2-Punkt Untergruppe	. . by controlling a device placed within the cavity (H01S 3/13 takes precedence) [4]
H01S 3/107	3-Punkt Untergruppe	. . . using an electro-optical device, e.g. exhibiting Pockels- or Kerr-effect [4]
H01S 3/108	3-Punkt Untergruppe	. . . using a non-linear optical device, e.g. exhibiting Brillouin- or Raman-scattering [4]
H01S 3/109	4-Punkt Untergruppe	. . . . Frequency multiplying, e.g. harmonic generation [4]
H01S 3/11	2-Punkt Untergruppe	. . in which the quality factor of the optical resonator is rapidly changed, i.e. giant-pulse technique
H01S 3/113	3-Punkt Untergruppe	. . . using bleachable or solarising media [2]
H01S 3/115	3-Punkt Untergruppe	. . . using an electro-optical device [4]
H01S 3/117	3-Punkt Untergruppe	. . . using an acousto-optical device [4]
H01S 3/121	3-Punkt Untergruppe	. . . using a mechanical device [4]
H01S 3/123	4-Punkt Untergruppe	. . . . Rotating mirror [4]
H01S 3/125	4-Punkt Untergruppe	. . . . Rotating prism [4]
H01S 3/127	3-Punkt Untergruppe	. . . Plural Q-switches [4]
H01S 3/13	2-Punkt Untergruppe	. . Stabilisation of laser output parameters, e.g. frequency, amplitude [2]
H01S 3/131	3-Punkt Untergruppe	. . . by controlling the active medium, e.g. by controlling the processes or apparatus for excitation [4]
H01S 3/134	4-Punkt Untergruppe	. . . . in gas lasers [4]
H01S 3/136	3-Punkt Untergruppe	. . . by controlling a device placed within the cavity [4]
H01S 3/137	4-Punkt Untergruppe	. . . . for stabilising of frequency [4]
H01S 3/139	3-Punkt Untergruppe	. . . by controlling the mutual position or the reflecting properties of the reflectors of the cavity [4]
H01S 3/14	1-Punkt Untergruppe	. characterised by the material used as the active medium
H01S 3/16	2-Punkt Untergruppe	. . Solid materials
H01S 3/17	3-Punkt Untergruppe	. . . amorphous, e.g. glass [2]
H01S 3/20	2-Punkt Untergruppe	. . Liquids
H01S 3/207	3-Punkt Untergruppe	. . . including a chelate [5]
H01S 3/213	3-Punkt Untergruppe	. . . including an organic dye [5]
H01S 3/22	2-Punkt Untergruppe	. . Gases
H01S 3/223	3-Punkt Untergruppe	. . . the active gas being polyatomic, i.e. containing more than one atom (H01S 3/227 takes precedence) [2, 5]
H01S 3/225	4-Punkt Untergruppe	. . . . comprising an excimer or exciplex [5]
H01S 3/227	3-Punkt Untergruppe	. . . Metal vapour [5]
H01S 3/23	1-Punkt Untergruppe	. Arrangement of two or more lasers not provided for in groups H01S 3/02-H01S 3/14, e.g. tandem arrangement of separate active media (involving only semiconductor lasers H01S 5/40) [2, 7]
H01S 3/30	1-Punkt Untergruppe	. using scattering effects, e.g. stimulated Brillouin or Raman effects [2]

Symbol	Typ	Titel
H01S 4/00	**Hauptgruppe**	**Devices using stimulated emission of wave energy other than those covered by groups H01S 1/00, H01S 3/00 or H01S 5/00, e.g. phonon maser, gamma maser**
H01S 5/00	**Hauptgruppe**	**Semiconductor lasers [7]**
H01S 5/02	1-Punkt Untergruppe	. Structural details or components not essential to laser action [7]
H01S 5/022	2-Punkt Untergruppe	. . Mountings; Housings [7]
H01S 5/024	2-Punkt Untergruppe	. . Cooling arrangements [7]
H01S 5/026	2-Punkt Untergruppe	. . Monolithically integrated components, e.g. waveguides, monitoring photo-detectors, drivers (stabilisation of output H01S 5/06; coupling light guides with opto-electronic elements G02B 6/42; devices consisting of a plurality of semiconductor or other solid state components formed in or on a common substrate, specially adapted for light emission H01L 27/15) [7]
H01S 5/028	2-Punkt Untergruppe	. . Coatings [7]
H01S 5/04	1-Punkt Untergruppe	. Processes or apparatus for excitation, e.g. pumping (H01S 5/06 takes precedence) [7]
H01S 5/042	2-Punkt Untergruppe	. . Electrical excitation [7]
H01S 5/06	1-Punkt Untergruppe	. Arrangements for controlling the laser output parameters, e.g. by operating on the active medium (transmission systems employing light H04B 10/00) [7]
H01S 5/062	2-Punkt Untergruppe	. . by varying the potential of the electrodes (H01S 5/065 takes precedence) [7]
H01S 5/0625	3-Punkt Untergruppe	. . . in multi-section lasers [7]
H01S 5/065	2-Punkt Untergruppe	. . Mode locking; Mode suppression; Mode selection [7]
H01S 5/068	2-Punkt Untergruppe	. . Stabilisation of laser output parameters (H01S 5/0625 takes precedence) [7]
H01S 5/0683	3-Punkt Untergruppe	. . . by monitoring the optical output parameters [7]
H01S 5/0687	4-Punkt Untergruppe	. . . . Stabilising the frequency of the laser [7]
H01S 5/10	1-Punkt Untergruppe	. Construction or shape of the optical resonator [7]
H01S 5/12	2-Punkt Untergruppe	. . the resonator having a periodic structure, e.g. in distributed feed-back lasers (DFB-lasers) (H01S 5/18 takes precedence) [7]
H01S 5/125	3-Punkt Untergruppe	. . . Distributed Bragg reflector lasers (DBR-lasers) [7]
H01S 5/14	2-Punkt Untergruppe	. . External cavity lasers (H01S 5/18 takes precedence; mode locking H01S 5/065) [7]
H01S 5/16	2-Punkt Untergruppe	. . Window-type lasers, i.e. with a region of non-absorbing material between the active region and the reflecting surface (H01S 5/14 takes precedence) [7]
H01S 5/18	2-Punkt Untergruppe	. . Surface-emitting lasers (SE-lasers) [7]
H01S 5/183	3-Punkt Untergruppe	. . . having a vertical cavity (VCSE-lasers) [7]
H01S 5/187	3-Punkt Untergruppe	. . . using a distributed Bragg reflector (SE-DBR-lasers) (H01S 5/183 takes precedence) [7]
H01S 5/20	1-Punkt Untergruppe	. Structure or shape of the semiconductor body to guide the optical wave [7]
H01S 5/22	2-Punkt Untergruppe	. . having a ridge or a stripe structure [7]
H01S 5/223	3-Punkt Untergruppe	. . . Buried stripe structure (H01S 5/227 takes precedence) [7]
H01S 5/227	3-Punkt Untergruppe	. . . Buried mesa structure [7]
H01S 5/24	2-Punkt Untergruppe	. . having a grooved structure, e.g. V-grooved [7]

Symbol	Typ	Titel
H01S 5/30	1-Punkt Untergruppe	. Structure or shape of the active region; Materials used for the active region [7]
H01S 5/32	2-Punkt Untergruppe	. . comprising PN junctions, e.g. hetero- or double- hetero-structures (H01S 5/34, H01S 5/36 take precedence) [7]
H01S 5/323	3-Punkt Untergruppe	. . . in $A_{III}B_{V}$ compounds, e.g. AlGaAs-laser [7]
H01S 5/327	3-Punkt Untergruppe	. . . in $A_{II}B_{VI}$ compounds, e.g. ZnCdSe-laser [7]
H01S 5/34	2-Punkt Untergruppe	. . comprising quantum well or superlattice structures, e.g. single quantum well lasers (SQW-lasers), multiple quantum well lasers (MQW-lasers), graded index separate confinement heterostructure lasers (GRINSCH-lasers) (H01S 5/36 takes precedence) [7]
H01S 5/343	3-Punkt Untergruppe	. . . in $A_{III}B_{V}$ compounds, e.g. AlGaAs-laser [7]
H01S 5/347	3-Punkt Untergruppe	. . . in $A_{II}B_{VI}$ compounds, e.g. ZnCdSe-laser [7]
H01S 5/36	*2-Punkt Untergruppe*	*. . comprising organic materials (dye lasers H01S 3/213) [2006.01]*
H01S 5/40	1-Punkt Untergruppe	. Arrangement of two or more semiconductor lasers, not provided for in groups H01S 5/02-H01S 5/30 (H01S 5/50 takes precedence) [7]
H01S 5/42	2-Punkt Untergruppe	. . Arrays of surface emitting lasers [7]
H01S 5/50	1-Punkt Untergruppe	. Amplifier structures not provided for in groups H01S 5/02-H01S 5/30 (as repeaters in transmission systems H04B 10/17) [7]