

Title (en)
TUNEABLE, ADJUSTMENT-STABLE SEMICONDUCTOR LASER LIGHT SOURCE AND A METHOD FOR THE OPTICALLY STABLE, LARGELY CONTINUOUS TUNING OF SEMICONDUCTOR LASERS

Title (de)
DURCHSTIMMBARE, JUSTIERSTABILE HALBLEITERLASERLICHTQUELLE SOWIE EIN VERFAHREN ZUR OPTISCH STABILEN, WEITGEHEND KONTINUIERLICHEN DURCHSTIMMUNG VON HALBLEITERLASERN

Title (fr)
SOURCE DE LUMIERE LASER A SEMICONDUCTEUR ACCORDABLE, A REGLAGE STABLE, ET PROCEDE POUR L'ACCORD OPTIQUEMENT STABLE, LARGEMENT CONTINU, DE LASERS A SEMICONDUCTEUR

Publication
EP 0867057 A2 19980930 (DE)

Application
EP 96946101 A 19961213

Priority
• DE 9602458 W 19961213
• DE 19548647 A 19951214

Abstract (en)
[origin: DE19548647A1] The continuously tuneable semiconductor laser light sources with an external resonator portion available hitherto are comparatively complex owing to the fact that, in addition to the degree of freedom necessary for wavelength tuning and optionally a further degree of freedom necessary for preventing mode jumps, they have further degrees of freedom which have to be maintained alone in a highly sensitive state in optimum positions. This disadvantage is to be overcome by a novel arrangement. The preferably extensively antireflection coated facet of a laser chip is mapped by an optical system onto a reflector, as a result of which the adjustment tolerance is substantially increased by the cat's eye effect and, since the optical system is provided with a high colour length deviation, the wavelengths can be tuned by displacement of given parts of the total system relative to other parts thereof. In this way a tunable semiconductor laser light source which is free from mode jumps and has at most two adjustable degrees of freedom can be produced. The invention further concerns the use of this system inter alia in optical spectroscopy.

IPC 1-7
H01S 3/085; H01S 3/025

IPC 8 full level
H01S 3/08 (2006.01); **H01S 5/00** (2006.01); **H01S 5/022** (2006.01); **H01S 5/10** (2006.01); **H01S 5/14** (2006.01); **H01S 3/105** (2006.01)

CPC (source: EP US)
H01S 5/02255 (2021.01 - EP US); **H01S 5/14** (2013.01 - EP US); **G01J 3/10** (2013.01 - EP US); **G01J 3/4338** (2013.01 - EP US); **H01S 3/08036** (2013.01 - EP US); **H01S 3/0805** (2013.01 - EP US); **H01S 3/08068** (2013.01 - EP US); **H01S 3/0815** (2013.01 - EP US); **H01S 3/105** (2013.01 - EP US); **H01S 5/02257** (2021.01 - EP US)

Citation (search report)
See references of WO 9722166A2

Designated contracting state (EPC)
CH DE FR GB LI

DOCDB simple family (publication)
DE 19548647 A1 19970626; DE 19548647 C2 20030123; EP 0867057 A2 19980930; JP 2000501887 A 20000215; US 6785305 B1 20040831; WO 9722166 A2 19970619; WO 9722166 A3 19970814

DOCDB simple family (application)
DE 19548647 A 19951214; DE 9602458 W 19961213; EP 96946101 A 19961213; JP 52162197 A 19961213; US 7795798 A 19980612