Title (en)

MICRO/NANOSTRUCTURED OPTICAL WAVEGUIDING STRUCTURE FOR MONITORING BIREFRINGENCE

Title (de)

MIKRO-/NANOSTRUKTURIERTE LICHTWELLENLEITERSTRUKTUR ZUR ÜBERWACHUNG VON DOPPELBRECHUNG

Title (fr)

STRUCTURE DE GUIDE D'ONDE OPTIQUE MICRONANOSTRUCTURÉ POUR LE CONTRÔLE DE LA BIRÉFRINGENCE

Publication

EP 2294464 A1 20110316 (FR)

Application

EP 09772524 A 20090702

Priority

- EP 2009058368 W 20090702
- FR 0854488 A 20080702

Abstract (en)

[origin: WO2010000824A1] The invention relates to a waveguiding structure, including a carrier substrate and a waveguide including at least one guide layer having an index of n1. Said layer includes a birefringence B area that includes recesses provided in the body of the guide layer and filled with a fluid or material having an index of n2. They are organized along at least two parallel rows, each row located in a plane perpendicular to the surface of the guide layer and parallel to the propagation direction of the optical wave in the guide layer; each row extending across a distance greater than or equal to the wavelength of the optical wave; the width of the recesses being = 1/10th of the wavelength of the optical wave; each recess within a single row being spaced apart from an adjacent recess at a distance of = 1/10th of the wavelength of the optical wave; the biorefringence B value following the Formula (I), ff being the fill factor of the material having a refractive index of n1; nH,TE (nB,TE) and nH,TM (nB,TM) being, respectively, the actual refractive indices of the mode TE and the mode TM of the guide layer having a higher (or lower) refractive index.

IPC 8 full level

G02B 6/122 (2006.01)

CPC (source: EP US)

B82Y 20/00 (2013.01 - US); **G02B 6/126** (2013.01 - EP US)

Citation (search report)

See references of WO 2010000824A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

WO 2010000824 A1 20100107; EP 2294464 A1 20110316; FR 2933502 A1 20100108; FR 2933502 B1 20110422; US 2011274399 A1 20111110; US 8285102 B2 20121009

DOCDB simple family (application)

EP 2009058368 W 20090702; EP 09772524 A 20090702; FR 0854488 A 20080702; US 200913002286 A 20090702