

Title (en)  
ANISOTROPIC DISTRIBUTED FEEDBACK FIBER LASER SENSOR

Title (de)  
ANISOTROPER FASERLASER-SENSOR MIT VERTEILTER RÜCKKOPPLUNG

Title (fr)  
DETECTEUR A LASER A FIBRE ANISOTROPE A RETROACTION REPARTIE

Publication  
**EP 1327129 A1 20030716 (DE)**

Application  
**EP 01969120 A 20011002**

Priority

- EP 01969120 A 20011002
- CH 0100591 W 20011002
- EP 00810965 A 20001018

Abstract (en)  
[origin: EP1197738A1] Fiber laser sensor comprises a distributed feedback (DFB) laser having a laser-reinforced fiber (2) with a fiber Bragg grid resonator (3). The fiber has a non-rotation symmetrical structure. An emission wavelength region and fiber parameters are such that the emission wavelength region and a wavelength region, in which at least two different space modes spread, overlap in a spectral region. A grid period of the fiber Bragg grid resonator is selected so that Bragg wavelengths assigned to the space modes lie in the spectral region. Preferred fiber parameters may that the modes are the same or different space modes with linear polarization orthogonal to each other or different space modes with the same linear polarization. The fiber has an elliptical core (2a), a bow-tie structure, a panda structure, a side hole structure, a D-shape structure, an elliptical fiber sleeve (2b) or a partially ground fiber sleeve, or is a micro-structured fiber with a rotation symmetrical structure.

IPC 1-7  
**G01L 11/02**

IPC 8 full level  
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