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(54) Title: EXTERNAL CAVITY WAVELENGTH STABILIZED RAMAN LASERS INSENSITIVE TO TEMPERATURE AND/OR EXTERNAL MECHANICAL STRESSES, AND RAMAN ANALYZER UTILIZING THE SAME

(57) Abstract: In one form of the invention, there is provided an external cavity wavelenght stabilized laser system comprising: a platform; a laser mounted to the platform with a laser mount; a diffractor mounted to the platform with a diffractor mount; and a lens mounted to the platform with a lens mount between the laser and the diffractor so as to transmit light therebetween; wherein the wavelenght of the laser is determined by (i) the angle of incidence of the light of the diffractor, and (ii) the diffractor characteristics of the diffractor; and wherein the system components are selected so that (i) a change in the angle of incidence of the light on the difference due to a change in the temperature of the system components substantially offsets (ii) a change in the diffraction characteristics of the diffractor.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/15474

A. CLASSIFICATION OF SUBJECT MATTER
IPC: **H01S 3/13**(2006.01);**H01S 3/08**(2006.01)

USPC: 372/32;372/92;372/102
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 372/32;372/92;372/102

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 6,526,071 A (ZORABEDIAN et al) 25 February 2003 (25.02.2003), column 9, lines 47-54 and Figure 2A.	1, 4, 6, 8-9 and 27-28 ---------- 2-3,5,7,10-26
Y	US 6,625,182 A (KUKSENKOV et al) 23 September 2003 (23.09.2003), column 10, lines 16-23.	3
Y	US 5,569,566 A (TAKEMOTO et al) 19 August 1997 (19.08.1997), Figure 1.	10
Y	US 20040217383A1 (KRAMES et al) 4 November 2004 (04.11.2004), paragraph 19 and 35.	11-14
Y	US 20020154301 A1 (SHEN et al) 24 October 2002 (24.10.2002), paragraphs 29-30.	15-18

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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