

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
18 May 2007 (18.05.2007)

PCT

(10) International Publication Number  
**WO 2007/055876 A3**

- (51) International Patent Classification:  
G01B 9/02 (2006.01)
- (21) International Application Number:  
PCT/US2006/040544
- (22) International Filing Date: 16 October 2006 (16.10.2006)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
11/268,977 7 November 2005 (07.11.2005) US
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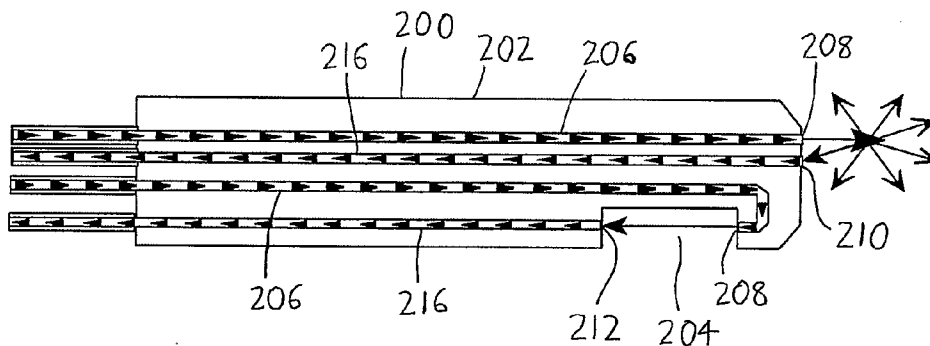
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:  
— with international search report

(88) Date of publication of the international search report:  
21 December 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MULTI-MODE SAMPLING PROBES



(57) Abstract: An optical probe for use in infrared, near infrared, Raman, and other spectrometers includes a probe outer surface 200 with a cavity defined therein. The probe emits light into a sample via emission locations 208 on the probe outer surface, at least one being in the cavity. The light emitted into the sample is then located at collection locations 210, 212 which include at least two of (a) a reflectance collection location 210 located on the probe outer surface for collecting diffusely reflected light from any adjacent sample, (b) a transmittance collection location 212 situated in the cavity and receiving light transmitted across the cavity from an emission location situated on an opposite side of the cavity, and (c) a transreflectance collection location 314 situated in the cavity and receiving transreflected light emitted from an emission location in the cavity, with such light being reflected from a side of the cavity opposite the transreflectance collection location.

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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/US06/40544

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC: **G01B 9/02**( 2006.01)

USPC: 356/477

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. : 356/477, 436, 441, 442, 451, 479, 501

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)  
 USPTO EAST database

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,137,108 A (DETHOMAS et al) 24 October 2000 (24.10.2000), Figs. 2 and 4.	1-3, 8-10, 15-18, -----
Y		5, 12, 21
Y	US 5,436,456 A (BORNSTEIN et al) 25 July 1995 (25.07.1995), Fig. 1.	5, 12, 21
A	US 5,585,634 (STEVENSON et al) 17 December 1996 (17.12.1996).	1-22
A	US 5,418,615 A (DOYLE) 23 May 1995 (23.05.1995).	1-22

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

* Special categories of cited documents:		
"A" document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed	"&"	document member of the same patent family

Date of the actual completion of the international search 06 August 2007 (06.08.2007)	Date of mailing of the international search report 18 SEP 2007
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