*NO COVER LETTER

IPOS's copy

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : G01N 21/35, 21/31, A61B 5/00 — A1

(11) International Publication Number: **WO 97/28438**

(43) International Publication Date: 7 August 1997 (07.08.97)

(21) International Application Number: PCT/US97/01370

(22) International Filing Date: 31 January 1997 (31.01.97)

(30) Priority Data:
08/596,409 2 February 1996 (02.02.96) US

(71) Applicant: INSTRUMENTATION METRICS, INC. [US/US]; Suite 102, 2085 Technology Circle, Tempe, AZ 85284 (US).

(72) Inventors: KHALIL, Gamal; 17717 N.E. 24th Street, Redmond, WA 98008 (US). MALIN, Stephen, F.; 16228 S. Fourth Street, Phoenix, AZ 85048 (US).

(74) Agents: REED, Dianne, E. et al.; Reed & Robins L.L.P., Suite 200, 285 Hamilton Avenue, Palo Alto, CA 94301 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: METHOD AND APPARATUS FOR MULTI-SPECTRAL ANALYSIS IN NONINVASIVE NIR SPECTROSCOPY

(57) Abstract

A method and apparatus are described for determining the concentration of an analyte present in a sample using multi-spectral analysis in the near infrared range. Incident radiation containing a plurality of distinct, nonoverlapping regions of wavelengths in the range of approximately 1100 to 3500 nm is used to scan a sample. Diffusively reflected radiation emerging from the sample is detected, and a value indicative of the concentration of the analyte is obtained using an application of chemometrics techniques. Information obtained from each nonoverlapping region of wavelengths can be cross-correlated in order to remove background interferences.

