Title (en)

METHOD OF PERFORMING OPTICAL MEASUREMENT ON A SAMPLE

Title (de)

VERFAHREN ZUR DURCHFÜHRUNG EINER OPTISCHEN MESSUNG AN EINER PROBE

Title (fr)

PROCEDE PERMETTANT D'EFFECTEUR UNE MESURE OPTIQUE SUR UN ECHANTILLON

Publication

EP 1595135 A4 20070411 (EN)

Application

EP 04706394 A 20040129

Priority

- NZ 2004000010 W 20040129
- NZ 52393703 A 20030203
- NZ 52751603 A 20030812

Abstract (en)

[origin: WO2004070365A1] The invention relates to a method of performing an optical measurement on a sample, such as an ellipticity measurement. The sample is irradiated with a polarized irradiation beam and a return beam is linearly polarized. The irradiation or return beam is modulated with a birefringence modulator, such as a photoelastic modulator, in accordance with a primary modulation signal. The return beam is directed onto a multichannel detector. Typically the detector is a slow detector, such as a CCD, having a response time greater than a period of the primary modulation signal. Detection values are generated simultaneously at each detection element and processed to determine a plurality of measurements. Various measurement techniques are described, including detector signal averaging over gated intervals; a design employing coherent modulation of the gain of an ICCD, and a modulator-coherent flash lamp design.

IPC 1-7

G01N 21/21

IPC 8 full level

G01N 21/21 (2006.01)

CPC (source: EP)

G01N 21/211 (2013.01)

Citation (search report)

- [X] US 5286968 A 19940215 - FOURNIER DANIELE [FR], et al
- [A] US 4708473 A 19871124 - METZDORFF WALTER [DE], et al
- [X] DUBOIS A ET AL: "High-resolution full-field optical coherence tomography with a Linnik microscope", APPLIED OPTICS, OSA, OPTICAL SOCIETY OF AMERICA, WASHINGTON, DC, US, vol. 41, no. 4, 1 February 2002 (2002-02-01), pages 805 - 812, XP002373646, ISSN: 0003-6935
- [X] GLEYZES P ET AL: "MULTICHANNEL NOMARSKI MICROSCOPE WITH POLARIZATION MODULATION: PERFORMANCE AND APPLICATIONS", OPTICS LETTERS, OSA, OPTICAL SOCIETY OF AMERICA, WASHINGTON, DC, US, vol. 22, no. 20, 15 October 1997 (1997-10-15), pages 1529 - 1531, XP008017799, ISSN: 0146-9592
- [X] COLLINS R W ET AL: "Dual rotating-compensator multichannel ellipsometer: instrument design for real-time Mueller matrix spectroscopy of surfaces and films", JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A (OPTICS, IMAGE SCIENCE AND VISION) OPT. SOC. AMERICA USA, vol. 16, no. 8, August 1999 (1999-08-01), pages 1997 - 2006, XP002422853, ISSN: 0740-3232
- See references of WO 2004070365A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2004070365 A1 20040819; EP 1595135 A1 20051116; EP 1595135 A4 20070411; JP 2006516731 A 20060706; JP 4555900 B2 20101006

DOCDB simple family (application)

NZ 2004000010 W 20040129; EP 04706394 A 20040129; JP 2006502763 A 20040129