

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 December 2004 (09.12.2004)

PCT

(10) International Publication Number
WO 2004/107026 A3

(51) International Patent Classification⁷: **G01J 4/00**,
G01N 21/55

(21) International Application Number:
PCT/US2004/015622

(22) International Filing Date: 19 May 2004 (19.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/472,687 22 May 2003 (22.05.2003) US
10/847,202 17 May 2004 (17.05.2004) 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, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, IT, LU, 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).

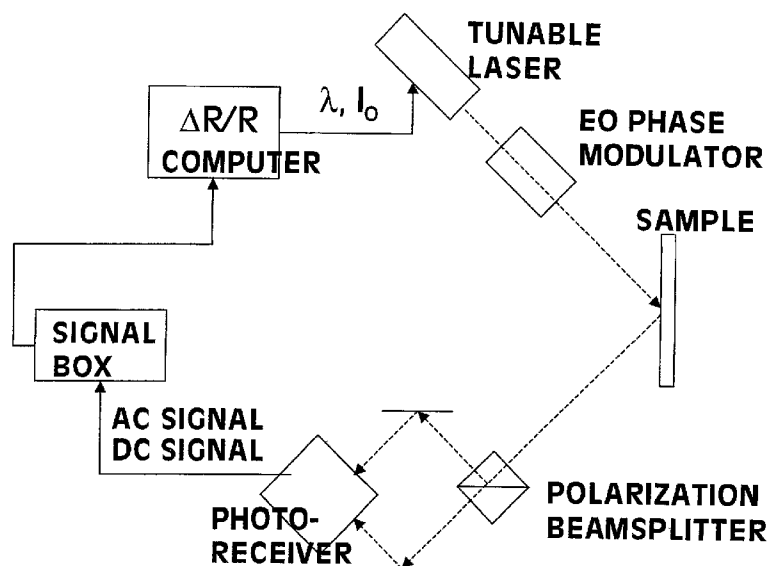
Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
14 April 2005

[Continued on next page]

(54) Title: POLARIZATION MODULATION PHOTOREFLECTANCE CHARACTERIZATION OF SEMICONDUCTOR
QUANTUM CONFINED STRUCTURES



(57) Abstract: A polarization modulation photoreflectance technique has been developed for optical characterization of semiconductor quantum confined structures. By using a tunable laser source in conjunction with polarization state modulation, a single beam modulation spectroscopy technique may be used to characterize the optical response of semiconductor materials and structures. Disclosed methods and instruments are suitable for characterization of optical signatures of quantum electronic confinement, including resolution of excitonic states at the band edge or other direct or indirect critical points in the band structure. This allows for characterization of semiconductor quantum well structures, for characterization of strain in semiconductor films, and for characterization of electric fields at semiconductor interfaces.

WO 2004/107026 A3



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