

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
26 January 2023 (26.01.2023)



(10) International Publication Number
WO 2023/003764 A1

(51) International Patent Classification:

G01N 29/036 (2006.01) G01N 5/02 (2006.01)
G01N 5/00 (2006.01) G01N 29/032 (2006.01)

(21) International Application Number:

PCT/US2022/037256

(22) International Filing Date:

15 July 2022 (15.07.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/223,333 19 July 2021 (19.07.2021) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available):

AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,

DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available):

ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(54) Title: QUARTZ CRYSTAL MICROBALANCE (QCM) SENSOR HAVING RAPID REGISTRATION | RESPONSE

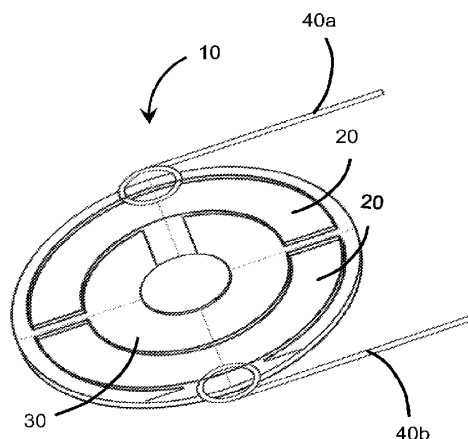


FIG. 1

(57) Abstract: A method for fabricating a Quartz Crystal Microbalance (QCM) sensor for monitoring semiconductor processes comprises the steps of: (i) providing a quartz crystal configured to measure a mass of materials deposited on a surface of the quartz crystal, and, (ii) modifying the surface of the quartz crystal by increasing the number of surface defects per unit area thereby increasing the surface area for rapid deposition of mass. The mass variation of the quartz crystal is registered as a consequence of a change in the resonance frequency of the quartz crystal when pulsed by a source of alternating current. The surface modification augments the registration response of the QCM sensor when exposed to deposition processes.

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