

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
13 July 2017 (13.07.2017)



(10) International Publication Number
WO 2017/120583 A8

(51) International Patent Classification:

H01L 31/107 (2006.01) H01L 31/054 (2014.01)
H01L 31/0376 (2006.01)

(21) International Application Number:

PCT/US2017/012714

(22) International Filing Date:

09 January 2017 (09.01.2017)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/275,927 07 January 2016 (07.01.2016) US

(71) Applicant: THE RESEARCH FOUNDATION FOR
THE STATE UNIVERSITY OF NEW YORK [US/US];
35 State Street, Albany, NY 12207 (US).

(72) Inventors: GOLDAN, Amirhossein; 121 Millie Ct., Apt.
121, Stony Brook, NY 11772 (US). ZHAO, Wei; 12 Mark
Twain Lane, East Setauket, NY 11733 (US).

(74) Agent: GALLAGHER, John, F., III; The Farrell Law
Firm, PC., 290 Broadhollow Road, Suite 210 E, Melville,
NY 11747 (US).

(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, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, 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, SM, ST, SV, SY, TH, 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, 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))

(48) Date of publication of this corrected version:

23 August 2018 (23.08.2018)

(54) Title: SELENIUM PHOTOMULTIPLIER AND METHOD FOR FABRICATION THEREOF

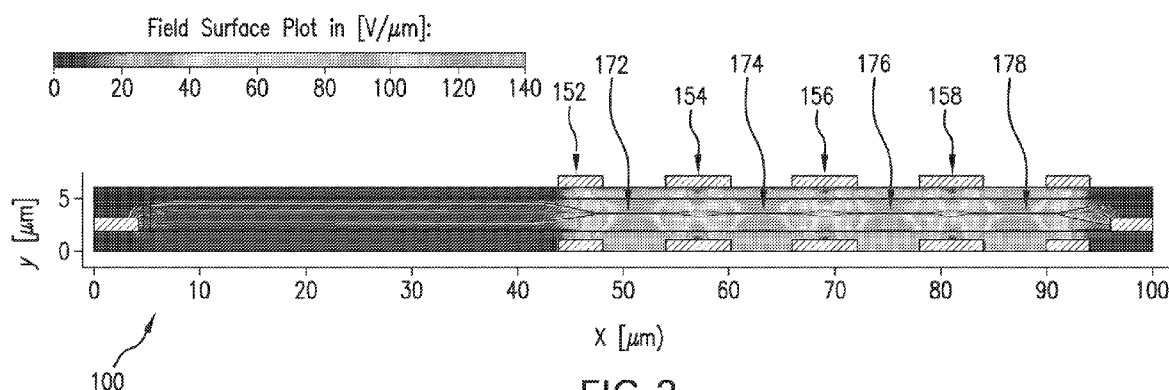


FIG. 2

(57) Abstract: Provided is a field shaping multi-well photomultiplier and method for fabrication thereof. The photomultiplier includes a field-shaping multi-well avalanche detector, including a lower insulator, an a-Se photoconductive layer and an upper insulator. The a-Se photoconductive layer is positioned between the lower insulator and the upper insulator. A light interaction region, an avalanche region, and a collection region are provided along a length of the photomultiplier, and the light interaction region and the collection region are positioned on opposite sides of the avalanche region.

(15) Information about Correction:

see Notice of 23 August 2018 (23.08.2018)