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

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
17 March 2016 (17.03.2016)

WIPO | PCT

(10) International Publication Number
WO 2016/040755 A8

(51) International Patent Classification:
H04N 3/09 (2006.01) *G02B 5/20* (2006.01)
H04N 5/33 (2006.01) *H01L 27/146* (2006.01)

(21) International Application Number:
PCT/US2015/049608

(22) International Filing Date:
11 September 2015 (11.09.2015)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/050,117 13 September 2014 (13.09.2014) US

(71) Applicant: **THE GOVERNMENT OF THE UNITED STATES OF AMERICA as represented by THE SECRETARY OF THE NAVY NAVAL RESEARCH LABORATORY** [US/US]; 4555 Overlook Ave, SW, Code 1008.2, Washington, DC 20375 (US).

(72) Inventors: **YETZBACHER, Michael, K.**; 10053 Beacon Pond Lane, Burke, VA 20151 (US). **WILSON, Michael**; 8513 Cyrus Place, Alexandria, VA 22308 (US).

(74) Agents: **BROOME, Kerry L.** et al.; US Naval Research Laboratory, 4555 Overlook Ave, SW, Code 1008.2, Washington, DE 20375 (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, 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, KN, KP, KR, 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:
9 February 2017

(15) Information about Correction:
see Notice of 9 February 2017

(54) Title: MULTIPLE BAND SHORT WAVE INFRARED MOSAIC ARRAY FILTER

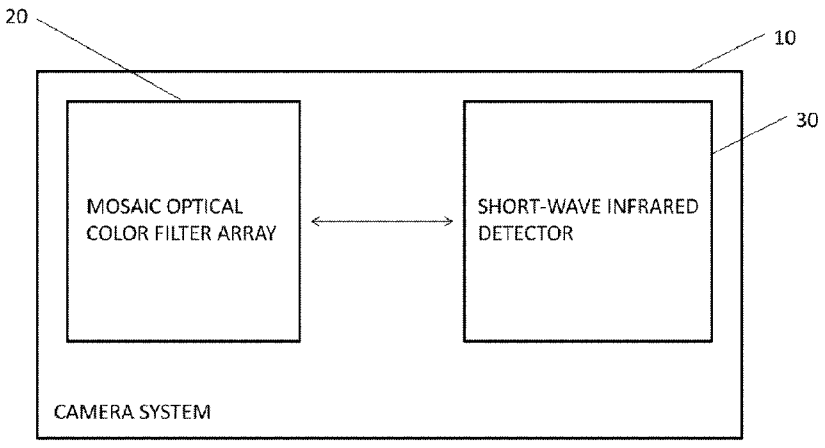


FIG. 1

(57) Abstract: A camera system includes a mosaic optical color filter array, which includes a plurality of repeating unit cells that enforce spectral consistency and spatial uniformity. Each repeating unit cell of the plurality of repeating unit cells satisfies a minimum focal-plane array perimeter criterion and a minimum perimeter to area ratio criterion. The spatial arrangement of bands within the repeating unit cell minimizes inter-band correlation between nearest neighbors. The camera system further includes a short-wave infrared detector optically coupled to the mosaic optical, color filter array. Optionally, the mosaic optical color filter array includes at least five spectral bands. The plurality of repeating unit cells includes the at least, five spectral bands.

WO 2016/040755 A8