



(51) International Patent Classification:
G01S 13/90 (2006.01)

(21) International Application Number:
PCT/IB2010/055729

(22) International Filing Date:
10 December 2010 (10.12.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PCT/IB2009/055700
11 December 2009 (11.12.2009) IB

(71) Applicant (for all designated States except US): **EADS SINGAPORE PTE. LTD** [SG/SG]; 110 Seletar Aerospace View (Level 3), Singapore 797562 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LEE, Ken-Yoong** [MY/SG]; Block 36, #08-311, Dover Road, Singapore 130036 (SG). **BRETSCHNEIDER, Timo** [DE/SG]; 21B Pasir Panjang Close, Singapore 118972 (SG).

(74) Agents: **SCHWEIGER, Martin** et al.; Schweiger & Partners (Singapore) LLP, 105 Cecil Street, #03-02, The Octagon, Singapore 069534 (SG).

(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, 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, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: METHOD FOR DESPECKLING OF SINGLE-LOOK DUAL-POLARIZATION SYNTHETIC APERTURE RADAR (SAR) DATA

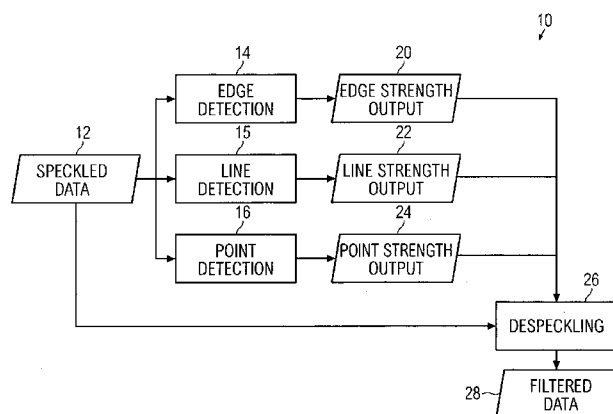


FIG. 1

(57) Abstract: The application discloses a method for despeckling synthetic aperture radar (SAR) images. An SAR image is received. The SAR image comprises pixels which are represented by two dimensional complex valued input vectors. Each input vector comprises a horizontal and a vertical polarization value. For each pixel of a multitude of the pixels, at least one feature strength parameter is calculated. For each pixel of the multitude of the pixels, a dual polarization output matrix Z_{out} is calculated from at least one input vector. If at least one of a predetermined subset of the feature strength parameters has its maximum value, the dual polarization output matrix Z_{out} is set equal to a dual polarization input matrix Z_{in} of a corresponding input vector. Otherwise, the dual polarization output matrix Z_{out} is set equal to a weighted average of dual polarization matrices, the dual polarization matrices comprising a first dual polarization matrix Z_{struct} and a second dual polarization matrix Z_{radius} . The calculated dual polarization output matrix Z_{out} is output to an output destination.

