

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
12 May 2022 (12.05.2022)



(10) International Publication Number
WO 2022/097089 A1

(51) International Patent Classification:

G01S 7/38 (2006.01) G01S 3/02 (2006.01)
G01S 7/02 (2006.01) G01S 13/68 (2006.01)

(21) International Application Number:

PCT/IB2021/060275

(22) International Filing Date:

05 November 2021 (05.11.2021)

(25) Filing Language:

Italian

(26) Publication Language:

English

(30) Priority Data:

20425047.6 05 November 2020 (05.11.2020) EP

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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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,

(54) Title: ZENITHAL REACTIVE JAMMER

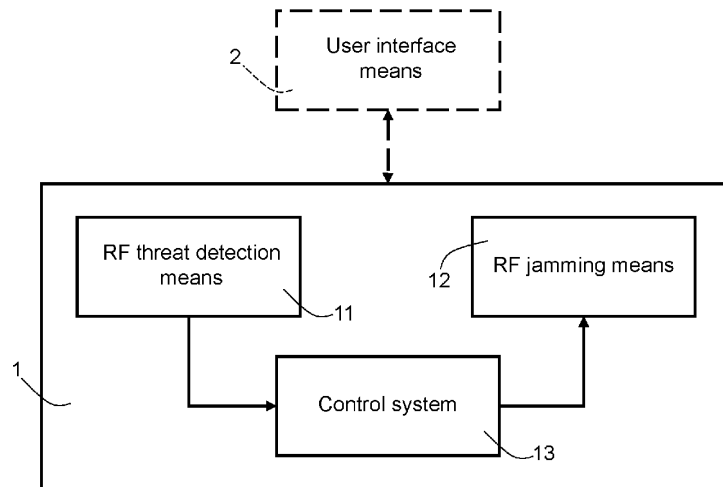


FIG. 1

(57) **Abstract:** The invention relates to a jamming device (1) for the protection of targets on the earth's surface against radiofrequency (RF) threats of the space, satellite or air type; said jamming device (1) comprising: RF threat detection means (11), RF jamming means (12) and a control system (13). The RF threat detection means (11) include a plurality of receiving antennas (111), an RF threat detection unit (112) and one or more predefined RF-threat-related libraries (113). The receiving antennas (111) are configured to receive RF signals having elevation angles of arrival that are equal to, or greater than, a given minimum elevation angle, thereby providing an elevation angle coverage of interest. The RF threat detection unit (112) is configured to detect the presence of an RF threat based on the RF signals received by the receiving antennas (111) and on the predefined RF threat library (ies) (113) and, in case of detection of an RF threat, to: determine a respective type of the detected RF threat based on the RF signals received by the receiving antennas (111)

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HR, HU, ID, IL, IN, IR, IS, IT, 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))*

and on the predefined RF-threat-related library (ies) (113); estimate a respective direction of arrival of the detected RF threat based on the RF signals received by the receiving antennas (111); and alert the control system (13) about the detected RF threat, providing said control system (13) with the respective type and the respective direction of arrival of said detected RF threat. Said predefined RF-threat-related library (ies) (113) contain (s) information related to one or more RF threats of interest so as to enable the RF threat detection unit (112) to detect the presence of said RF threat (s) of interest and to determine the respective type thereof based on the RF signals received by the receiving antennas (111). The control system (13) includes a control unit (131) and one or more predefined RF-jamming- actions-related libraries (132). The control unit (131) is configured, in case of detection of an RF threat by the RF threat detection unit (112), to: determine an RF jamming action to be performed against the detected RF threat based on the respective type determined by the RF threat detection unit (112) and on the predefined RF-jamming-actions-related library (ies) (132); and to operate the RF jamming means (12) so that said RF jamming means (12) perform the determined RF jamming action against the detected RF threat. Said predefined RF-jamming-actions-related library (ies) (132) contains, for each RF threat of interest inserted in the predefined RF threat library (ies) (113), respective information related to one or more respective RF jamming actions to be performed against said RF threat of interest. The RF jamming means (12) are operable by the control unit (131) in case of detection of an RF threat by the RF threat detection unit (112) and include: a plurality of transceiver antennas (121) configured to provide, also, said elevation angle coverage of interest, track the detected RF threat and transmit RF jamming signals against said detected RF threat so as to perform the RF jamming action determined by the control unit (131); and an RF jamming signal generation unit (122) configured to generate the RF jamming signals to be transmitted by the transceiver antennas (121) against the detected RF threat so as to perform said RF jamming action.