

Title (en)
SIMULTANEOUS IDENTIFICATION AND LOCALIZATION OF OBJECTS BY MEANS OF BISTATIC MEASUREMENT

Title (de)
SIMULTANE IDENTIFIZIERUNG UND LOKALISIERUNG VON OBJEKTEN DURCH BISTATISCHE MESSUNG

Title (fr)
IDENTIFICATION ET LOCALISATION SIMULTANÉES D'OBJETS AU MOYEN D'UNE MESURE BISTATIQUE

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Abstract (en)
[origin: WO2021249678A1] The invention relates to a system for the identification and localization of an object (Z). The system (10, 20) comprises a bistatic FMCW radar sensor system, which has at least two FMCW radar sensors (R1, R2) and is designed to be able to be operated coherently or quasi-coherently and to emit a series of repeating ramp signals. Furthermore, the system comprises an active RFID transponder (40), which is disposed on an object (Z) to be identified and to be localized and is designed to produce a modulated bistatic backscatter signal (RB, SIF,1,bi), wherein a ramp signal sent out by one of the at least radar sensors (R1, R2) at a ramp repetition frequency (f) is modulated with an amplitude modulation signal, the modulation frequency (fmod) of which is already known and is less than half the ramp repetition frequency. The system also comprises an evaluation unit (100, 100a), which is designed to establish an association between a beat frequency and the modulation frequency (fmod) of the active RFID transponder (40), which modulation frequency is already known, on the basis of the modulated bistatic backscatter signal (RB, SIF,1,bi) by means of two Fourier transforms of the modulated backscatter signal (RB, SIF,1,bi) according to the frequency (f) and according to the amplitude (A). The invention also relates to a method for the identification, localization and velocity measurement of an object (Z).

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