

ABSTRACT**SYNTHETIC ANTENNA SONAR AND METHOD FOR FORMING
SYNTHETIC ANTENNA BEAMS**

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The present invention relates to the field of sonar imaging and to the detection and classification of objects by means of a synthetic aperture sonar. The synthetic aperture sonar (1) is intended to move along a first axis (X1). The sonar (1) comprises an emitting device (2) configured to emit, in
10 each ping, at least one acoustic pulse toward an observed zone in a set of sectors comprising at least one sector. The sonar (1) comprises a first physical receiving antenna (3) extending along the first axis (X1) allowing measurements of backscattered signals to be acquired and a processing device configured to form, over R pings, for each sector of the set of sectors,
15 synthetic aperture beams from measurements of signals backscattered by the observed zone and generated by acoustic pulses emitted in said sector. The sonar (1) comprises at least one gyrometer. The processing device is configured so as to correct for variations in the movement of the first receiving antenna during the formation of the synthetic aperture beams of
20 said set of sectors by carrying out an autocalibration by intercorrelation of the successive pings.

Figure 2.

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