



WIDE SWATH DETECTION FOR SAR RADARS

Innovative use of SAR radar instruments in wide swath mode for maritime detection

Technological benefits

Use of a wide swath mode

Wide observation area (width of 100 to 1,000 km)
 High angle of incidence, 35° grazing
 Low consumption: a few hundred RF watts
 Limited thermal dispersion

High-performance detection

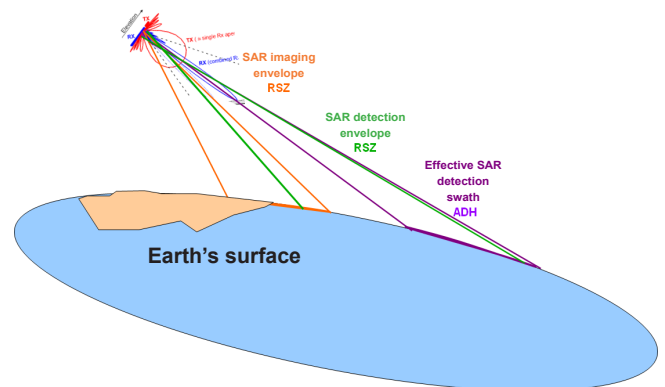
Decametric sensitivity to detect ships
 Reduced uncertainty of location: accurate to within 1 km
 Can be used in S and K bands

Limited telemetry rate

Partial processing on board: only a portion of the scene is sent to the ground

Compatible with reduced swath mode

Switchover to non-ambiguous observation
 Suitable for regional surveillance



Operating principle

Invention overview

Use of a satellite radar instrument with two acquisition principles (imaging and detection) for maritime detection purposes.

Use of an ambiguous mode for detection makes it possible to facilitate the implementation of maritime surveillance satellite missions.

Commercial benefits

Makes global surveillance possible

Daily global coverage with a constellation of 4 to 5 satellites

Optimised use of satellites

Low consumption
 Can be used on the largest parts of the orbit
 Limited data rates and storage

Potential applications

Maritime surveillance and detection

All floating targets: ships, icebergs, etc.

TRL : 3

Patented invention, available under license