



2ND INTERNATIONAL SYMPOSIUM

«INNOVATION & COOPERATION FOR BLUE GROWTH»

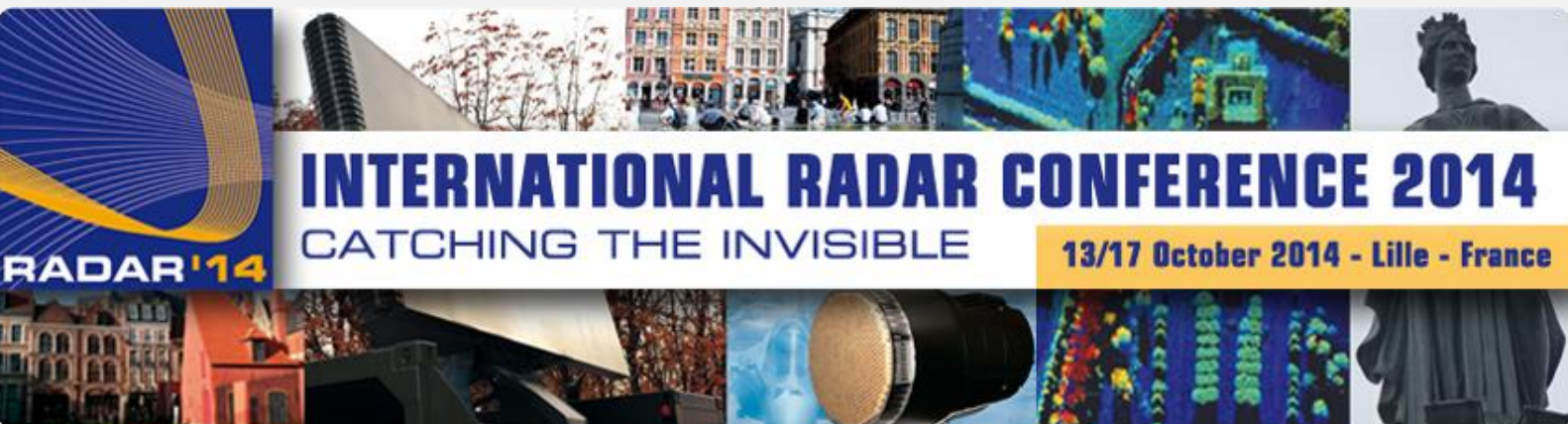
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Nicolas Thomas / Roberto Gomez / Gunnar Tietze

Data Interface and Viewing for Ocean Radar Systems in Coastal Zone Risk Management

Presentation includes the topics: Tsunami Detection - Forecasting of dangerous currents and waves
Drift Prediction of oil slick for environmental protection - Drift Prediction of persons for search and rescue



Dr. Anna Dzvankovskaya

Fast-Moving Target Observation Using High-Frequency Surface Wave Radar

The high-frequency (HF) surface wave radar system located at the coast is well-known as a tool for synoptic on-line mapping of sea surface current fields and the spatial distribution of the sea waves. Especially for oceanographic applications, low power HF radar systems have been developed, which use surface wave propagation along the salty sea surface. Such HF radar system brings area surveillance far beyond the conventional microwave radar coverage. Additional options for oceanographic radar applications can be vessel and aircraft monitoring above sea surface. This paper describes a new attempt in signal processing approach for detection of fastmoving targets in the radar observations based on a constant false-alarm-rate algorithm. The target locations detected by the HF radar are passed to a tracking filter using range and azimuth information to track the locations of fast-moving targets. A special short coherent integration time mode has been applied for processing real radar measurements. The tracking procedure is performed for fast-moving target observation using two monostatic HF radar systems located at the coast.