

Sicomar-Plus HF radars summer school

May 26-28, 2021



MARITTIMO-IT FR-MARITIME

Fondo Europeo di Sviluppo Regionale



Participations will be virtual or in person (20 min/presentation, including questions).

Oral Session 1 (May 26, 8h30-12:30)

Welcome and introduction (C.-A. Guérin & A. Molcard)

Measuring marine surface currents with High-Frequency Radars (HFR)

9:00 : Alexandro Orfila (IMEDEA, Spain, in person)
Lagrangian dynamics in coastal Seas from HF-Radars

9:20 : Anne-Claire Bennis (University of Caen, France, virtual)
Surface hydrodynamics in the Alderney Race from HF radar measurements and 3D modelling

9:40 : Cuong Tran (Univ. Littoral, France, in person)
Application of HFR in characterizing the Gulf of Tonkin surface circulation

10:00 : Anne Molcard (MIO, Univ Toulon, France, in person)
What to do with 10 years of (gappy) radar data? Some illustrations from the HFR of Toulon.

10:20 : Guillaume Sicot (ENSTA, France, virtual)
Analysis of surface current map with Doppler Spectra measured with HF radar

Open discussion & break

11:15 : A word from the president of the University of Toulon, Xavier Leroux (in French)

Civil and environmental applications of surface currents monitoring

11:30 : Emma Reyes (SOCIB, Spain, virtual)
IBISAR service: helping SAR operators and emergency responders to select the most accurate ocean forecast

HFR data processing 1 : from antenna voltage to surface currents maps

11:50 : Charles-Antoine Guérin (MIO, Univ Toulon, France, in person)

The new radar signal processing techniques developed at MIO

Oral Session 2 (May 26, 13:30-17:30)

Other products and applications of HFR

13:30 Anna Rubbio (AZTI, Spain, virtual)

HF radar, satellite and in-situ data to study coastal (sub)mesoscale eddies and their effect on cross-shelf exchange and phytoplankton distribution

13:50 Lucy Wyatt (University of Sheffield, UK, virtual)

Measuring ocean wave spectra with phased-array HF radar

14:10 Aldo Drago & Adam Gauci (University of Malta, virtual)

Monitoring storms and extreme events with HF radars

14:30 Jochen Horstmann (Helmholtz Zentrum Geesthacht, Germany, virtual)

Ship detection and tracking with HF radars

Open discussion & break

State of art of the HFR global network and focus on some sites

15:30 Plabo Lorente (Puertos del Estado, Spain, virtual)

MONGOOS/EuroGOOS networks

15:50 Hugh Roarty (Rutgers University, USA, virtual)

Development of a Multistatic HF Radar Network

16:10 Carlo Brandini (LAMMA, Italy, in person ?)

The Sicomar-Plus HFR network

Open discussion & break

HFR radar data processing 2 : from « raw » to « clean » current maps

16:50 : Alexey Sentchev (Univ. Littoral, France, virtual)

Mapping surface current fields by combining HF radar velocity measurements with dynamical constraints

17:10 Bruno Zakardjian (MIO, Univ Toulon, France, in person)

The inertial period as a basis time scale for last outliers elimination and QC index for HF radar

Open discussion

Oral Session 3 (May 27 8:30-12:30)

HFR design and implementation : the point of view of manufacturers

8:30 Chad Whelan (CODAR USA, virtual)

« Building on 35 years of SeaSonde innovations to meet the needs of current and future HF radar networks »

Simone Cosoli (University of Western Australia, Australia, virtual)

8:50 Directive compact antenna design for the low-band (5Mhz) Seasondes and the extremely low power (300mW) in use still achieving 200km range offshore

9:10 Jorge Sanchez (Qualitas, Spain, virtual / Tania Morales, PLOCAN)

CODAR SeaSonde HF radar technology for surface currents, waves and vessel traffic monitoring. Online real-time showcase of PLOCAN SeaSonde HFR network in the Canary Islands (Spain)

9:30 Julien Marmain (Degréane Horizon, France, in person)

Radio-oceanography at Degréane Horizon

9:50 Roberto Gomez (Helzel GmbH, Germany, in person)

Total current vectors with a single site, MIMO systems, Vessel detection

Open discussion & break

HFR radar data management and best practices

10:45 Carlo Mantovani (CNR, Italy, virtual)

Good practices for a new HF Radar deployment and setup

11:05 Lorenzo Corgnati (CNR, Italy, virtual)

HFR data life cycle: the long trip from the sea to the user

11:25 Solabarrieta Lohitzune (AZTI, Spain, virtual)

European HF radar network: building of an historical set of European HF radar standardized current data.

Open discussion & lunch break

Practical session 1A (May 27, 14:00-17:30)

HFR radar data processing 1 : Deriving a radial surface current map from scratch using the HFR data in Toulon (Matlab) Dylan Dumas & Charles-Antoine Guérin

Practical session 1B (May 27, 14:00- 15:30)

A small practical session in parallel to the practical session 1 : python code-snippets for beginners illustrating how-to make basic plots of HF radar data" (Paz Rotllán García, SOCIB, Spain)

Practical session 2 (May 28, 14:00 -17:30)

HFR radar data processing 2 : from « raw » to « clean » current maps (Matlab) Natacha Bourg & Anne Molcard

Field visit (May 28, 9:00-12:00)

Visit of the main HF radar site of the MIO in Fort Peyras

The Sicomar-Plus HFR network

