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Assessments of wave resources using High-Resolution Altimetry Data in coastal zones

This study focuses on the potential of wave energy resources across coastal regions, with particular emphasis on overseas marginal territories and European coastal zones. Our research utilizes high-resolution satellite altimetry sea state data, including significant wave height and backscatter coefficient, sourced from the European Space Agency's CryoSat-2 mission and processed using the advanced SAMOSA+ retracker algorithm tailored for coastal areas. The analysis spans over a decade, from January 2011 to December 2022, employing an empirical model to calculate wave power density.
The most favorable season and sea state conditions for harnessing wave energy are identified. The study highlights the importance of innovative methodologies and the role of satellite data in enhancing the accuracy of wave energy assessments.

SONIA PONCE DE LEÓN, PHD

She is the Principal Investigator of a European Space Agency project entitled: "Assessment of wave energy resource in the European and Mediterranean coastal zones using high-resolution altimetry products"and was Visiting Scientist at the European Space Agency in 2023, ESA-ESRIN, in the Earth Observation Science, Applications and Climate Department, where she worked on assessing wave power using high-resolution altimetry products.

Affiliation: Centre for Marine Technology and Ocean Engineering (CENTEC), IST, Universidade de Lisboa, Portugal

25 JULY 2024 | **16:30 AULA A12**

DICCA contact
andrea.lira.loarca@unige.it

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