

Master 2 - Proposition Stage 2020-2021

Title : Multiscale comparison of wind data estimated from different satellites

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Global wind information is provided by the wind-field scatterometer from China-France oceanography satellite (CFOSAT), launched in 2018. The 2D wind information is recorded along the trace of the satellite, and one can globally reconstruct the wind spatial patterns and their time evolution. Other satellites provide similar data: here we focus on Metop-a, Metop-b and Metop-c satellites, respectively launched by European Space Agency on 2006, 2012 and 2018.

The same information, at same dates is provided by these 4 satellites, with different sensors. Here we propose to perform comparisons between the multiscale analysis of both observations. The aim of this study is to emphasize common features obtained by both sensors, in order also to show what properties are sensor-independent, and what may be the differences between each satellite.

The methods that will be used include Fourier power spectral analysis (along track and in 2D over local regions) as well as probability density functions and structure functions. Latitude evolution of different indicators, as well as time evolution, will be considered.

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