

## Use of DINEOF for ocean colour data applications

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*oral presentation*

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DINEOF (Data Interpolating Empirical Orthogonal Functions) is a technique to reconstruct missing data in geophysical datasets. It uses a truncated EOF decomposition to infer the missing data. The optimal number of EOFs to be used in the reconstruction is determined by cross-validation. As only the most important EOFs are retained, noise contained in the data is effectively removed as this noise is usually found in higher modes. The retained EOFs can be used to detect outliers in the dataset, and it is also possible to calculate an estimate of the reconstruction error. DINEOF has been applied to several ocean variables, including sea surface temperature, salinity and colour-related variables like total suspended matter, turbidity and chlorophyll-a concentration. Several examples will be shown using polar-orbiting and geostationary satellite data. The venue of very high spatial resolution satellite data for coastal applications opens new challenges for the application of DINEOF, as the short-lived nature of the small scale features being measured by these new satellites. Plans to adapt DINEOF to these new datasets and how to deal with the multiscale nature of the coastal ocean will be presented.