



CSC Seminar

SPEAKER

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TITLE

A tutorial on Multiscale Proper Orthogonal Decomposition (mPOD)

ABSTRACT

Linear methods for dimensionality reduction, such as Proper Orthogonal Decomposition (POD), have become ubiquitous tools for distilling large datasets. These can be used to discover patterns, build filters, speed up regressions, and construct reduced-order models. This talk presents a tutorial on the Multiscale Proper Orthogonal Decomposition (mPOD), a generalization of the POD which leverages multiresolution analysis to balance decomposition convergence with spectral separation of its modes. The mPOD will be demonstrated on an experimental dataset collected via Time-Resolved Particle Image Velocimetry, and Python codes from the MODULO package will be illustrated.

Tuesday, April 22, 2022 at 2 pm

BBB