

Multidisciplinary Simulation, Estimation, and Assimilation Systems Seminar Series

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Stochastic optimization of flow simulations using particles

Abstract: The stochastic optimization algorithm Covariance Matrix Adaptation Evolutionary Strategy (CMA-ES) is coupled with vortex particles methods to perform reverse engineering of flow problems. The principles of CMA-ES and vortex particles simulations are reviewed and their applications are discussed in relation to aircraft wake instability, anguilliform swimming and in vivo cytoplasmic transport of human adenovirus. CMA-ES on distributed Graphics Processing Units is also discussed.

Wednesday, Jan. 13, 2010

3:30PM; Rm. 5-314

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Merged Estimates