Séminaire Jeudi 13 Décembre 11h00 / Seminar Thursday December 13 11:00 AM

Conférencier/Lecturer: Steve Thomas (NCAR)

Co-auteurs: Stephen J. Thomas, Joshua P. Hacker and Jeffrey L. Anderson

Sujet/Subject: Robust Numerical Algorithms for the Ensemble Kalman Filter

Présentation/Presentation: Anglais / English

Lieu/Room: Grande salle du premier étage CMC

Résumé/Abstract:

Numerically stable and efficient algorithms for the square root EnKF are presented. These are based on the minimization of an alternative functional. The method relies on orthogonal rotations, is highly parallel. Computation of eigenvalue and singular value decompositions is not required. We present numerical results for a recently proposed model with 960 degrees of freedom, two scales of motion, and chaotic dynamics, using perfect and imperfect models. When compared to other formulations, the proposed algorithm results in lower mean square errors and is less susceptible to filter divergence. The algorithm achieves the same or lower mean square errors as the serial Potter algorithm but is not restricted to a diagonal observation error covariance matrix.