

OPTIMAL TRANSPORT PARTICLE FILTERS

Bamdad Hosseini

University of Washington, USA

bamdadh@uw.edu

Filtering of high dimensional and nonlinear models, with highly non-Gaussian states, is a challenging problem where traditional filtering algorithms such as EnKF fail. In this talk, I will discuss some new ideas and approaches to this problem using optimal transport theory and triangular maps leading to interesting theoretical observations and a path towards scalable algorithms.

Joint work with Amirhossein Taghvaei (University of Washington, USA) and Mohammad Al-Jarrah (University of Washington, USA).