

Rigorous analysis and numerical implementation of a data assimilation algorithm

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In this talk I will introduce downscaling data assimilation algorithms for weather and climate prediction based on discrete coarse spatial scale measurements of the state variables (or only some of them, depending on the underlying model). Moreover, I will also demonstrate uniform in time error estimates of the numerical discretization of these algorithms, which makes them reliable upon implementation computationally. Furthermore, I will also present some recent results concerning a statistical version of these algorithms.