



## **Data assimilation for a quasi-geostrophic model with circulation-preserving stochastic transport noise**

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## **Abstract**

This talk continues a series of studies on using the stochastic variational approach for geophysical fluid dynamics introduced by Holm (Proc Roy Soc A, 2015) as a framework for deriving stochastic parameterisations for unresolved scales. In this talk we present data assimilation results for a stochastic two-layer quasi-geostrophic model (derived from the stochastic variational approach) in a horizontally periodic channel with forcing and dissipation. We study how different data assimilation methods reduce the uncertainty of coarse-grid simulations.