Abstract Submitted
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Direct Statistical Simulation: Ensemble Averaging[1] ALTAN ALLAWALA, BRAD MARSTON, Brown University — Low-order statistics of geophysical fluid models may be directly accessed by solving the equations of motion for the equal-time cumulants. We investigate a variant of the second order cumulant expansion (CE2) in which zonal averaging is replaced by ensemble averaging. The approach is tested on two different highly idealized models of planetary atmospheres on a spherical geodesic grid: A stochastically-forced barotropic jet, and a deterministic jet relaxed toward an unstable profile. The results are compared to the traditional approach of accumulating statistics via numerical simulation, and to zonally-averaged CE2.

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Altan Allawala
Brown University

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