

Abstract Submitted
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Effects on finite-time scalar statistics by partitioning metric¹

PHILLIP WALKER, WENBO TANG, Arizona State University — When partitioning a nonlinear aperiodic dynamic system into different regions identified by Lagrangian coherent structures (LCS) there are two approaches, geometric and probabilistic; each offering a handful of different metrics. We consider stochastic scalar dispersion associated with LCS and compare the statistics of the separate flow partitions as identified by several partitioning methods. The differences of the resident time curves between methods indicate the effectiveness of that partitioning method for objectively partitioning the flow into topologically distinct regions. In this talk we explore such correlation between methods and statistics, and effective mixing.

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Phillip Walker
Arizona State University

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