

1035-37-116

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Driven by a desire to compare mixing around coherent features in the ocean, we introduce a diagnostic aimed at assessing the extent to which a given dynamics fall short of being ergodic. Although not applied yet to the ocean features, we show how the diagnostic works on simple examples of maps and how it brings out features of ergodic-like behavior that are manifest at different scales. (Received July 25, 2007)