

Abstract Submitted
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Extracting Lagrangian Coherent Structures and locating Clear Air Turbulence¹ WENBO TANG, MANIKANDAN MATHUR, GEORGE HALLER, MIT — Clear Air Turbulence (CAT) is a small-scale meteorological hazard that poses significant threat to aviation safety. We apply dynamical systems methods on three-dimensional atmospheric data to detect Lagrangian Coherent Structures that play a crucial role in CAT. We also discuss the development of an automated algorithm that provides real-time CAT alert based on on-board sensor data. Our analysis is also of use in weather forecasting.

¹Collaborators: AFRL, Supported by: AFOSR

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