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Department of Atmospheric Sciences M.S. Defense Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa
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M.S. Defense Title:

CLOUD AND MBL PROPERTIES ACROSS THE SC-CU TRANSITION

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Date: Wednesday, June 19, 2019
Time: 3:00pm
Location: IPRC Conference Room, POST 414

Abstract:

This research aims to provide a characterization of the Pacific stratocumulus-to-cumulus (Sc-Cu) transition using observations of the marine boundary layer (MBL) and cloud microstructures observed during the Cloud System Evolution in the Trades (CSET) field campaign. This research focuses on in situ aircraft observations of warm marine clouds in their typical environment from research flights that crossed the Pacific Ocean along the Sc-Cu transition between California and Hawai'i. Thermodynamic and microphysical measurements are used to compute various entrainment measures to characterize the entrainment-mixing across the Sc-Cu transition and to investigate how it impacts cloud microphysical properties and the structure of the transition itself. The results from this study aid in understanding the structure of the Sc-Cu transition and the microstructure and entrainment processes that the warm marine clouds associated with it undergo.