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Physics of Stratocumulus Top: turbulence characteristics

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New results from the Physics of Stratocumulus Top (POST) research campaign are presented. Using in-flight measurements of thermodynamic and dynamic properties at the interface between stratocumulus cloud top and the free troposphere, the cloud top region is classified into sublayers. Within each sublayer, this study focuses on measurements of the three components of velocity collected at 40 samples per second, corresponding to 1.5 m spatial resolution. The data are used to calculate turbulence characteristics including the root-mean-square velocity fluctuations, turbulent kinetic energy (TKE), and estimates of the TKE dissipation rate. Comparison of these properties among the different sublayers near the cloud top and between so-called "classical" and "non-classical" cases gives a detailed view of the structure of turbulence in the stratocumulus topped boundary layer.