



Coherent structures in stratocumulus-topped boundary layer

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Coherent structures as updraft, downdraft, ascendance and subsidence are analyzed in stratocumulus-topped boundary layers using a new classification method, based on an octant analysis. This is performed using high-resolution Large Eddy Simulations (LES) simulations for both an idealized case (SMOKE) and a realistic configuration case (DYCOMS-II RF01). The analysis shows symmetry between downdrafts and updrafts, with the former driven by the radiative cooling and the second one initiated by the mechanical bouncing on the surface. The characteristics of the different structures (e.g. temperature, humidity, mass and turbulent fluxes, areal fractions) are described.