The simulation captures reasonably well the bimodal nature of the distribution (Fig. 1). However, the simulations underestimate observed microphysical measurements. Tuning the initial aerosol profile should show surprising similarity in shape, with profiles produced by the LES present, at least through the vertical velocity variance, (d) vertical velocity, and FSSP concentration likely arises from droplets less than 25 μm.

(a) LES cloud droplet number concentration at 4 h. (b) FSSP number concentration from a descent leg late in the