



Dual-Polarised Doppler X-band Radar Observations of Mixed Phased Clouds from the UK's Ice in Clouds Experiment-Dust (ICE-D)

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Here we present dual-polarised X-band radar and in situ observations of convective, altocumulus and altostratus clouds relatively close to the Sahara desert in order to examine the impact of dust on the formation of ice and precipitation. These initial results come from the UK's Ice in Clouds Experiment – Dust (UK ICE-D). UK ICE-D was an aircraft and ground-based project based in Cape Verde off the coast of Senegal, Africa during August 2015. The overall goal of this experiment was to determine how desert dust affects primary nucleation of ice particles in convective and layer clouds as well as the subsequent development of precipitation and glaciation of the clouds. This was accomplished by making focused observations when dust was present in high concentrations and when almost no dust was present. Here we focus on examining the differences in hydrometeor types derived from the dual-polarised X-band radar observations observed in the high and low dust loadings with specific emphasis on the role of supercooled rain drops in these two situations.