



Microphysical and Optical Properties of Saharan Dust Measured during the ICE-D Aircraft Campaign

Claire Ryder (1), Franco Marengo (2), Jennifer Brooke (2), Richard Cotton (2), and Jonathan Taylor (3)

(1) University of Reading, Department of Meteorology, Reading, United Kingdom (c.l.ryder@reading.ac.uk), (2) Met Office, Exeter, UK, (3) Centre for Atmospheric Science, University of Manchester, Manchester, UK

During August 2015, the UK FAAM BAe146 research aircraft was stationed in Cape Verde off the coast of West Africa. Measurements of Saharan dust, and ice and liquid water clouds, were taken for the ICE-D (Ice in Clouds Experiment – Dust) project – a multidisciplinary project aimed at further understanding aerosol-cloud interactions. Six flights formed part of a sub-project, AER-D, solely focussing on measurements of Saharan dust within the African dust plume. Dust loadings observed during these flights varied (aerosol optical depths of 0.2 to 1.3), as did the vertical structure of the dust, the size distributions and the optical properties. The BAe146 was fully equipped to measure size distributions covering aerosol accumulation, coarse and giant modes. Initial results of size distribution and optical properties of dust from the AER-D flights will be presented, showing that a substantial coarse mode was present, in agreement with previous airborne measurements. Optical properties of dust relating to the measured size distributions will also be presented.