



Modelling and observations of cirrus clouds in TROCCINOX2

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A cirrus parameterisation has been developed which includes the most important microphysical processes in cirrus clouds, and captures the principal features of the behaviour of detailed particle-size-resolved models. The parameterisation has been used for domain-filling trajectory studies of the tropical tropopause layer (TTL).

The 2nd field campaign of TROCCINOX project is to be carried out in January/February 2005 in Brazil. During the campaign, cirrus clouds in the TTL, which redistribute water vapour in the TTL, will be measured by in-situ instruments onboard high-altitude aircraft Geophysica as well as by remote sensing means. Trajectories generated from either UKMO or ECMWF forecast data, coupled with microphysics, will be used to forecast the water vapour content or occurrence of cirrus clouds for flight planning.

Trajectories will be rerun with assimilated data after the campaign. Besides water vapour and condensed water, trajectories can also carry signals of other species. Then, comprehensive comparisons will be made with observations to determine the origin and destination of air parcels, and the effects of cirrus clouds during the transport.