

Abstract Submitted
for the DFD16 Meeting of
The American Physical Society

In-situ Measurements of Cloud Droplet Dynamics¹ JAN MOLACEK, GHOLAMHOSSEIN BAGHERI, Max Planck Institute for Dynamics and Self-Organisation, Goettingen, HAITAO XU, Tsinghua University, Beijing, China, EBERHARD BODENSCHATZ, Max Planck Institute for Dynamics and Self-Organisation, Goettingen — We present an in-situ experiment investigating the dynamics of cloud droplets and its dependence on the turbulent flow properties. This dynamics plays a major role in the rate of growth of cloud particles by coalescence and the resulting precipitation rate. The experiment takes place at a mountain research station at an altitude of 2650m, and makes use of a movable platform that can travel with the mean wind velocity over a distance of 5m and at speeds of up to 7.5m/s. Moving with mean velocity enables us to follow individual cloud particles over longer intervals, thus improving the quality of the statistics. Simultaneous measurements of other variables such as droplet size distribution and humidity fluctuations are done in order to develop a complete picture of the microphysical conditions within clouds. Preliminary results will be presented and discussed.

¹We gratefully acknowledge the generous support from the Bavarian State Ministry of the Environment and Consumer Protection via the VAO project

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Date submitted: 01 Aug 2016

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