



Measurements of the terminal velocity and shape of falling raindrops at Vaisala Rain Laboratory

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An experimental study of the terminal velocity and shape of falling raindrops has been performed for drops in the size range from 1280 to 5530 μm in Vaisala Rain Laboratory. The velocity and the shape of the drop were measured using a method based on a parallel beam linear sensor. Results correlate well with numerical and experimental data achieved earlier by other researchers.

The laboratory was constructed for calibrating and testing Vaisala RAINCAP[®] rain sensor. Since the function of the sensor is based on the measurement of vertical force produced by individual raindrops, it was necessary for the raindrops to reach their terminal velocity and final shape. The topic of the present study was part of the validation of the laboratory.