1.12 VERTICAL PROFILE OF REFLECTIVITY FROM K-BAND RADAR OBSERVATIONS IN EAST ANTARCTICA

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K-band micro rain radar (MRR) systems have been deployed to monitor precipitation in east Antarctica, at the Dumont d′Urville station (DDU), Adélie Land, and at the Princess Elizabeth (PE) station in Queen Maud Land. At DDU, two such MRRs are complemented with a precipitation weighing gauge, disdrometers and LIDAR observations. In November 2015, a first MRR (MRR1) was installed inside of a radome with a vertical resolution of configuration of 100 m. A second MRR (MRR2) was deployed in January 2017, outside of the radome and it was configured with the same parameters than MRR1 to evaluate the radome attenuation. Afterwards, the vertical resolution of MRR2 was changed to 15 m to increase the resolution of observation near to the surface. At PE, a MRR is deployed since January 2012, later complemented by a disdrometer and a ceilometer. Equivalent reflectivity factor (Ze), fall speed (W) and Doppler spectrum width (σ) were obtained using the method proposed by Maahn and Kollias (2012). The post-processing method was adapted to filter remaining noise that is recurrent in these type of equipment, based on the frequency of observations and on the Doppler spectrum. Results show that sublimation of the snowfall particles near the surface has an important impact on the structure of the VPR. The maximum Ze occurs within the first 1.5 km near to the surface and often shows a decrease due to the effect of the sublimation induced by the dry katabatic winds. This effect is stronger at DDU than PE. At the same time, strong katabatic winds produce blowing snow events that are frequent in winter and can be observed only using MRR2 that covers the first 450 m with high resolution, since both MRRs present a blind zone within the two lower height bins.