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Snow Virga Above the Swiss Plateau Observed by a Micro Rain Radar

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Highlights of the thesis of Ruben Beynon are presented. To our knowledge, snow virga at middle latitudes has not been reported yet. We investigated data from a Micro Rain Radar (MRR) in Bern, Switzerland, from 2008 to 2013 for snow virga precipitation events. The MRR data were reprocessed with the radar data processing by Garcia-Benardi et al. (2020) which allows the reliable determination of the snow virga precipitation rate. Here, we focus on the long-lasting snow virga event of 17 March 2013. The review of the event is additionally supported by atmospheric reanalysis data and atmospheric back trajectories. In the investigated event, we are able to observe a wind shear during the snow virga precipitation. While the wind shear existed, the situation was that moist and precipitating air was in the upper air layers while dry air was carried into the lower air layers. The lowest altitudes reached by the precipitation varied between 300 m and 1500 m above the ground. The duration of the snow virga was 22 hours. In difference to the MRR observations, ERA5 reanalysis indicated drizzle at the ground over a time segment of 4 hours during the snow virga event.