



Automatic detection of spectral aliasing to avoid errors in Micro Rain Radar retrievals due to strong vertical wind

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Vertically pointing Micro Rain Radars (MRRs) provide profiles of drop size distributions (DSDs) from the measured Doppler reflectivity spectra. However, in a recent article, it has been shown that, in the presence of strong vertical winds, the measured spectra can suffer from aliasing errors which can considerably affect the derived DSD, and hence, the retrieved rain parameters. Furthermore, it was shown that such aliasing can be automatically detected to identify strong vertical winds and eliminate incorrect retrievals.

In this work, we generalize and apply this detection scheme to several cases of a summer dataset in order to get the overall influence of aliasing on day to day operation of the MRR. This allows to derive several statistics such as the portion of aliased spectra, and to get a better feeling of the consequences of such aliasing on the MRR retrievals as for example on the attenuation estimation.