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Meteor head echo characteristics observed with MAARSY in the polar region

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The Middle Atmosphere Alomar Radar System (MAARSY, 53.5 MHz), on the North Norwegian island Andoya (69.30° N, 16.04° E) , is the only high power large aperture (HPLA) radar system with interferometric capabilities providing daily meteor head echo observations since November 2013. Meanwhile, the data set of meteor head echoes contains over one million events with a perfect daily and seasonal coverage of the four northern hemisphere sporadic sources.
Although, the North Apex meteor source dominates the observation by far (more than 40%), the statistic is large enough for a comparison of the observational meteor parameters for all sporadic sources.
Furthermore, due to the large spread of the antenna gain of the HPLA radar system in combination with the interferometric solutions, the observation area can be divided into high and low sensitive regions with different collecting sizes. This separation is equivalent with a measurement of various radar systems with different beam characteristics, observing at the same time and geographical location. This helps answering question on the impact of the radar specifications on the meteor head echo measurements.