

Ground-based remote sensing of clouds and aerosol in the arctic Svalbard

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Ground-based remote-sensing measurements for aerosol and clouds using Sky-Radiometer, Micro-Pulse Lidar (MPL) and All-Sky Camera have been performed continuously in Ny-Alesund, Svalbard on a long-term basis since early 2000's. Further in addition, several new measurements have started with a polarization MPL in August 2013 and a 95GHz Doppler cloud radar in September 2013 for cloud microphysics and phase classification, and a dual frequency microwave radiometer in June 2014 for precipitable water and liquid water path. In this paper, preliminary results from those remote-sensing measurements will be presented in regard to physical characteristics of clouds, aerosol and water vapor, and the relationship in their interaction.