Seminar “Ocean, Ice and Atmosphere”,
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Aerosol Remote Sensing over bright surfaces using SLSTR

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Aerosols — liquid and solid particles suspended in the atmosphere — influence cloud properties and incoming solar radiation.
Retrieving Aerosol Optical Thickness (AOT) over the cryosphere using remote sensing data presents challenges, due to the high albedo surfaces.
Improved knowledge and monitoring of aerosol processes in the Arctic is crucial, especially with regard to their impact on Arctic Amplification.
Satellite-based remote sensing data allows high spatial and temporal sampling of AOT during polar day.

The AOT retrieval algorithm (Istomina et al. 2010) was adapted from using AATSR data to SLSTR onboard the currently active Sentinel-3 Satellites. The talk covers the basics of aerosol remote sensing in the arctic, the approach to validation with ground measurements as well as an outlook of studies to be conducted using the validated dataset.