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Remote sensing of sea ice

Rasmus Tonboe, Associate Professor, Denmarks Technical University Dr. Tonboe is teaching and doing research in radiometry and sea ice remote sensing. He is engaged in the development of new climate data records in the ESA CCI project using historical satellite data (for example ESMR on Nimbus 5 , 1972-77). This includes the development of models for the temporally and spatially varying uncertainty estimates and for regional noise reduction. While at the Danish Meteorological Institute he developed operational products for the EUMETSAT OSISAF, for example, the near 50 GHz sea ice emissivity and emitting layer temperature product for input to NWP models. He has specialized in the development and use of sea ice emission (infrared and microwave) and scattering (radar altimeters and scatterometers) for characterisation of uncertainties, assessment of new missions, and forward model inversion for estimating sea ice snow cover, and other properties. He spent one year as a visiting scientist at the Finnish Meteorological Institute 2015/2016. He has extensive field work experience from Greenland and the Arctic Ocean operating radiometers and radars from ship and on ice, aircraft surveys, oceanographic measurements and doing snow and ice sampling. During the 2019/2020 winter he spent 3 months at the North Pole participating in the MOSAiC expedition. He is a member of ESA's MetOp SG MWI and ICI science advisory group and the ESA CIMR mission advisory group. He has participated in a number of international EU, ESA, EUMETSAT and nationally funded projects.

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