A forward model for calculating the AMSR brightness temperatures of sea-ice and ocean as seen through the atmosphere

This report describes a forward model for open water and the atmosphere, and how the contribution from sea ice can be included in these. In addition the report describes a retrieval algorithm that allows validation of the forward model. The model and the algorithm are verified by comparison with SSM/I retrievals, with ocean and atmosphere retrievals by Remote Sensing Systems, with SST data from the Ocean and Sea Ice SAF and with sea ice concentrations and MY-fractions of the NASA Team and Comiso Bootstrap sea ice algorithms. The forward model is the level 0 emissivity and radiative transfer model for the IOMASA project.

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