

Stuart Fox et al. present in their manuscript „Airborne validation of radiative transfer modelling of ice clouds at millimetre and sub-millimetre wavelengths“ a closure study between ISMAR observations and forward simulations with ARTS radiative transfer model by using a single scattering database. The atmospheric setup for the forward simulation is based on adjusted numerical model output and hydrometeor profiles derived from lidar and in-situ probes observations.

Although no full closure can be achieved for the presented frequencies, the study gives a valuable contribution to the fields of remote sensing of ice cloud properties in the millimeter and submillimeter wavelength region from aircraft and satellite.

The answers the authors gave to the comments in the first review are sufficient and clarified open questions. I highly appreciate that they provided additional figures.

For this review I have only two open question and some technical comments.

It is mentioned that the study has been done as well for the MARSS frequency 183GHz but no results are presented.

p.24 l.19: I think the point that only nadir observations are used because there you have the closest match to the lidar doesn't count? The lidar is only used to derive the ice water content. Once the atmosphere is set up, the simulations can be performed for any observation angle and therefore compared to the ISMAR observations.

To my imagination the sentences are sometimes rather long.

To me it is a slight inconsistency writing „millimetre and sub-millimetre“ and „millimetre/submillimetre“.

p24. l.21 + l.23: horizontally-aligned and viewing-angle without hyphen