

## The retrieval of ice-cloud properties from Himawari-8/AHI

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Himawari-8 satellite was successfully launched in October 2014, which carry a multi-spectral sensor of Advanced Himawari Imager (AHI). The AHI cloud products were developed by employing the cloud algorithm of the GCOM-C satellite program, which included cloud mask, thermodynamic phase, cloud optical, microphysical properties and cloud types. Some of the cloud products (e.g. cloud optical thickness and cloud types) are archived in JAXA homepage (<http://www.eorc.jaxa.jp/ptree/>).

Cloud products from remote sensing instrument is applicable in climate change study, numerical weather prediction, meteorological disaster, as well as atmospheric study. In this study, ice cloud optical and microphysical properties are simulated from RSTAR radiative transfer code by using various ice particle scattering models. Scattering property of the Voronoi ice particle scattering model is investigated for developing the AHI ice cloud products. Furthermore, optical and microphysical properties of the ice clouds are retrieved from Himawari-8/AHI satellite measurements. Finally, retrieval results from Himawari-8/AHI are compared to MODIS-C6 cloud property products for validation of the AHI cloud products.

Keywords: Ice cloud, Remote sensing, Ice particle scattering property