



Investigation of the ice cloud properties derived from Himawari-8/AHI

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Himawari-8 is a new-generational geostationary meteorological satellite, which is successfully launched by the Japan Meteorological Agency (JMA) on 7 October 2014. The Himawari-8 carries a multi-spectral sensor of Advanced Himawari Imager (AHI). The AHI has 16 observational bands from visible to thermal infrared spectral regions with nadir spatial resolutions of 500 m (one band), 1000-m (two bands) and 2000 m (13 bands). Performance of the spatial and spectral resolution of the AHI is close to the low orbit satellite e. g. MODIS instrument in the nadir observations.

In this study, optical and microphysical properties of the ice cloud are retrieved from AHI satellite measurements. The Voronoi ice particle scattering model is employed to retrieve the ice cloud properties from AHI measurements. Retrieval results from AHI are compared to MODIS C6 cloud property product. Furthermore, scattering property of the Voronoi model is compared to scattering model used in the MODIS C6 ice cloud product. AHI can observe the cloud frequently, which is useful to investigate the quick variation cloud such as deep convective (DC) cloud. Finally, cloud property from AHI measurements and ground based radar rainfall observation data with 1km grid mesh are collected to investigate the generation process of the DC cloud in Kyushu island Japan.