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Aerosol Optical Depth Retrieval over the snow from GOCI in winter season.

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Geostationary Ocean Color Imager(GOCI) sensor has provided real-time, hourly monitoring of aerosol properties the East Asian region. However, aerosol retrieval of aerosol properties over bright surface in the winter has been very difficult thus have not performed. So this study attempted the retrieval of aerosol properties over the snow cover from GOCI. Surface reflectance is obtained be taking second-maximum reflectance of the Rayleigh corrected reflectance using 11 day searching window. In addition, aerosol type is classified base on the AERONET as in Lee et al.(2010). However, snow surface has a high surface reflectance, it is very difficult to classify the aerosol type.

As a result, we can see a part which is not retrieved using the Yonsei aerosol retrieval(YAER) algorithm from the retrieved AOD in this study. These are looks like a smooth, but retrieved AOD show discontinuous. Because the snow reflectivity uncertain problems. It is difficult to assume the reflectance of snow, because snow removal work of the urban area, and polluted over the snow surface.

As no other data of the aerosol optical depth are available over snow surface from other satellites or AERONET, thus results were compared with the AOD using the DAI(Hsu et al., 2004) retrieved from GOCI.