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Aerosol retrieval using Himawari-8 visible data

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We derive an aerosol product from visible observation data of Himawari-8. Himawari-8 provides us with data at every 10 minute intervals, so that it becomes possible to monitor atmospheric aerosol properties, e.g. aerosol amount, size or absorbing information, at the time interval. In the present study, we apply two-channel method (Higurashi and Nakajima., 1999) and MWP (Hashimoto PhD thesis, 2014) for the aerosol retrieval over land and ocean, respectively. MWP method is an optimal method using multi-wavelength and multi-pixel information of satellite imagery, and we can simultaneously retrieve the parameters that characterize multiple pixels in each of horizontal sub-domains consisting the target area. One of important target areas with the MWP method is the heterogeneous surface area like an urban area. Using above algorithms, we retrieve aerosol optical thickness (AOT) and Angstrom exponent (AE) over land and ocean areas.