Geophysical Research Abstracts
Vol. 20, EGU2018-11899, 2018
EGU General Assembly 2018

The recent progress of XBAER aerosol retrieval algorithm

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EXtensible Bremen AErosol Retrieval (XBAER) is used to derive aerosol and surface properties from MEdium-Resolution Imaging Spectrometer (MERIS) and similar instruments. In this paper, the recent progress of XBAER algorithm will be presented. The version of XBAER algorithm has been improved from version 1.6 to version 2.1. Version 1.6 of XBAER algorithm focuses on the retrieval of Aerosol Optical Thickness (AOT) for land and ocean ground scenes based on 1 km resolution input of TOA reflectance, the current version (version 2.1) has implemented a 10 km averaging of TOA reflectance as a pre-processing procedure. The averaging procedure is similar to MODIS Dark-Target algorithm based on a histogram analysis. The impact of the averaging to the retrieval accuracy will be analyzed. The aerosol typing over the ocean has been largely improved in version 2.1. The new aerosol typing, especially the dust aerosol has been improved by the new analysis of Maritime Aerosol Network (MAN) observations. A new Bidirectional Reflectance Distribution Function (BRDF) model has also been implemented in the new version of XBAER.