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The ALI Aerosol Retrieval Algorithm with Application to OMPS-LP and OSIRIS

The Aerosol Limb Imager (ALI) instrument is currently being developed as part of the HAWC mission, which will include three Canadian instrument contributions to the NASA Atmosphere Observing System (AOS) mission. ALI will measure limb scattered radiances in the VIS-NIR spectral region at high vertical resolution and will include polarization information to better determine aerosol particle size and discriminate high-altitude clouds. An aerosol retrieval algorithm is currently being developed that will simultaneously retrieve aerosol extinction as well as particle size information. To test the algorithm, a version of the retrieval with the particle size retrieval disabled is being consistently applied to measurements from the Optical Spectrograph and InfraRed Imager System (OSIRIS) and the Ozone Mapping and Profiler Suite - Limb Profiler (OMPS-LP). The full algorithm (including particle size) is also being applied to both instruments to determine if particle size information can be obtained from these instruments in certain viewing conditions. In this presentation we describe the current state of the ALI aerosol retrieval algorithm and show the results obtained from applications to OSIRIS and OMPS-LP.

Topic

Current and past limb and occultation instruments: algorithms, products, validation

Author: ZAWADA, Daniel (University of Saskatchewan)

Co-authors: WARNOCK, Taran (University of Saskatchewan); Dr RIEGER, Landon (Environment and Climate Change Canada); BOURASSA, Adam (University of Saskatchewan); DEGENSTEIN, Doug (University of Saskatchewan)

Presenter: ZAWADA, Daniel (University of Saskatchewan)