

Home

Online Library ACP

- ▣ Recent Final Revised Papers
- ▣ [Volumes and Issues](#)
- ▣ Special Issues
- ▣ Library Search
- ▣ Title and Author Search

Online Library ACPD

Alerts & RSS Feeds

General Information

Submission

Review

Production

Subscription

Comment on a Paper

Impact
Factor
4.865

ISI
indexed



▣ [Volumes and Issues](#) ▣ [Contents of Issue 21](#)

Atmos. Chem. Phys., 8, 6375-6380, 2008

www.atmos-chem-phys.net/8/6375/2008/

© Author(s) 2008. This work is distributed under the Creative Commons Attribution 3.0 License.

Retrieval of stratospheric aerosol size information from OSIRIS limb scattered sunlight spectra

A. E. Bourassa^{1,2}, D. A. Degenstein², and E. J. Llewellyn²

¹Science Systems and Applications, Inc., Hampton, VA

²Institute of Space and Atmospheric Studies, University of Saskatchewan, Saskatoon, SK

Abstract. Recent work has shown that the retrieval of stratospheric aerosol vertical profiles is possible using limb scattered sunlight measurements at optical wavelengths. The aerosol number density profile is retrieved for an assumed particle size distribution and composition. This result can be used to derive the extinction at the measured wavelength. However, large systematic error can result from the uncertainty in the assumed size distribution when the result is used to estimate the extinction at other wavelengths. It is shown in this work that the addition of information obtained from the near infrared limb radiance profile at 1530 nm measured by the imaging module of the OSIRIS instrument yields an indication of the aerosol size distribution profile that can be used to improve the fidelity of the retrievals. A comparison of the estimated extinction profile at 1020 nm with two coincident occultation measurements demonstrates agreement to within approximately 15% from 12 to 27 km altitude.

▣ [Final Revised Paper](#) (PDF, 468 KB) ▣ [Discussion Paper](#) (ACPD)

Citation: Bourassa, A. E., Degenstein, D. A., and Llewellyn, E. J.: Retrieval of stratospheric aerosol size information from OSIRIS limb scattered sunlight spectra, Atmos. Chem. Phys., 8, 6375-6380, 2008. ▣ [Bibtex](#) ▣ [EndNote](#) ▣ [Reference Manager](#)



Search ACP

Library Search

Author Search

News

- ▣ [Sister Journals AMT & GMD](#)
- ▣ [Financial Support for Authors](#)
- ▣ [Journal Impact Factor](#)
- ▣ [Public Relations & Background Information](#)

Recent Papers

01 | ACP, 24 Nov 2008: Trend analysis of greenhouse gases over Europe measured by a network of ground-based remote FTIR instruments

02 | ACP, 24 Nov 2008: Particle size distributions in the Eastern Mediterranean troposphere

03 | ACP, 24 Nov 2008: Clouds-Aerosols-Precipitation Satellite Analysis Tool (CAPSAT)

04 | ACP, 24 Nov 2008: