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Atmospheric Measurement Techniques Discussions

Interactive comment on "Stratospheric aerosol particle size information in Odin-OSIRIS limb scatter spectra" *by* L. A. Rieger et al.

Anonymous Referee #3

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Interactive comment on "Stratospheric aerosol particle size information in Odin-OSIRIS limb scatter spectra" L.A.Rieger, A.E.Bourassa, and D.A.Degenstein

General comment:

Particle size of the stratospheric aerosol and its evolution in time and space is an interesting and important problem. Unfortunately, the sensors that could extract this information are very rare. The paper study the problem of retrieving particle size information from limb scattering measurements by the Optical Spectrograph and InfraRed Imaging System (OSIRIS). The main result of paper is interesting and promising. Angstrom coefficient from OSIRIS data shows good qualitative agreement with SAGE II results

(Fig.11). This paper is also important from other point of view. This paper presents the current level of retrieval algorithms in the OSIRIS team. Current discussion shows that these algorithms probably can be improved. This is extra reason for publication of this paper: journal for the professionals, like AMT, is not only the box for final results or receipts, but place for useful discussions or "brainstorming". The opinion of other scientists, including SCIAMACHY team, will be important for future papers about OSIRIS data. I recommend to publish this interesting paper for broad discussion.

Specific comments:

1. In 5.1., about Fig.9 "While the scattering angle dependence is clear in the Version 5 data... this is no longer the case with the coupled retrieval, denoted Version 6". This is too strong statement. Visual difference is moderate. Or, please, change Figure 9 on Fig.1 from discussion (the paper focused only on period before 2006).

2. When results for Angstrom coefficient for latitudes >20N and < 20S and period for 2005 to current moment will be published? Distribution for Angstrom coefficient in Alt-Lat space is interesting for different months or, at least, seasons. Discussion of future plan will be useful for readers and for evaluation of efficiency of discussed method.

Interactive comment on Atmos. Meas. Tech. Discuss., 6, 5065, 2013.