

Interactive comment on “Characterization of ozone profiles derived from Aura TES and OMI Radiances” by D. Fu et al.

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The Authors introduce their work by mentioning a number of recent studies on the combination of different spectral regions (UV, VIS and TIR) for increasing the vertical resolution of tropospheric trace gases, in particular ozone. All of these studies are based on simulated observations. Anyway, there exists a published work on a multispectral inversion scheme to retrieve ozone information from real SCIAMACHY observations, i.e., by using UV+VIS:

P. Sellitto, F. Del Frate, D. Solimini, S. Casadio, Tropospheric Ozone Column Retrieval From ESA-Envisat SCIAMACHY Nadir UV/VIS Radiance Measurements by Means of a Neural Network Algorithm, IEEE Transactions on Geosciences and Remote Sensing, Volume 50, Issue 3, Pages 998-1011, 2012.

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The improvements brought by this multispectral approach, in particular in the troposphere, are discussed in the following publication:

P. Sellitto, A. Di Noia, F. Del Frate, A. Burini, S. Casadio, D. Solimini, On the role of visible radiation in ozone profile retrieval from nadir UV/VIS satellite measurements: An experiment with neural network algorithms inverting SCIAMACHY data, Journal of Quantitative Spectroscopy and Radiative Transfer, Volume 113, Issue 12, Pages 1429-1436, 2012.

To my knowledge, these are the first (and, for the moment, the only) published studies of multispectral retrieval with real observations and they are surely very pertinent for your work. I suggest the Authors to take a look at those publications and add them as references to their paper, i.e., by explicitly mentioning that they are the first experiments of multispectral retrieval with real observations.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 27589, 2012.