



MAESTRO Measurements of Atmospheric Aerosol

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MAESTRO (Measurements of Aerosol Extinction in the Stratosphere and Troposphere Retrieved by Occultation) is now in its 11th year on orbit as part of the Atmospheric Chemistry Experiment on the Canadian Space Agency's SCISAT satellite. MAESTRO data analysis has been dogged by a deficiency in accurate timing between the measurements made by the partner instrument, the ACE-FTS (Atmospheric Chemistry Experiment, Fourier Transform Spectrometer), that provides the atmospheric pressure-temperature profile and observation tangent altitudes used in the MAESTRO data analysis. Attempts have been made to use apparent air column density and oxygen A-band absorption as a mechanism to line up the tangent heights, but to no avail. A new product is now being produced, based on matching the modeled ozone slant columns from the ACE-FTS retrievals with the MAESTRO slant column measurements. The approach is very promising and indicates that a valuable product from the MAESTRO wavelength-dependent aerosol extinction likely result.

The usefulness of the profile matching technique will be demonstrated and some aerosol absorption profiles will be presented in comparison with measurements made by the ACE Imager aerosol profile results. While the process optimizes the comparison between ACE-FTS ozone profile data and that from MAESTRO, it does not detract from the higher vertical resolution information provided by MAESTRO.