

## IN SITU AND REMOTE SENSING OF SULFATE AEROSOLS

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Stratospheric sulfate aerosols play a crucial role in the physical and chemical processes in the Earth's atmosphere. They have a strong impact on climate by absorbing and scattering both incoming and outgoing radiation. The Atmospheric Chemistry Experiment Fourier Transform Spectrometer is recording infrared transmittance spectra of the Earth's limb from low Earth orbit (solar occultation). These infrared spectra provide accurate measurements of sulfate aerosol composition<sup>1</sup>, but have difficulty providing information on physical properties such as the particle size distribution. In contrast, optical extinction measurements, such as from the SAGE III/ISS instrument on the International Space Station, provide information on physical properties, but little data on composition. *In situ* measurements, made from aircraft, with a mass spectrometer and laser light scattering provide some information on composition and reliable information on physical properties<sup>2</sup>. By combining the information from satellite observations and *in situ* measurements, a more complete characterization of stratospheric sulfate aerosols has been obtained.

## References

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