



SAGE III Limb Scatter measurements during INTEX Summer 2004 campaign



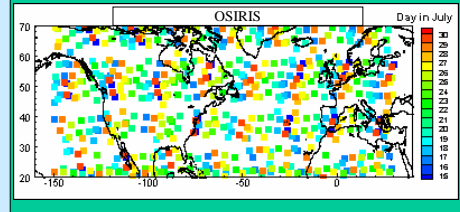
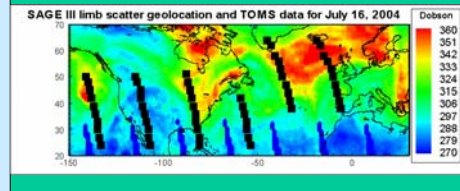
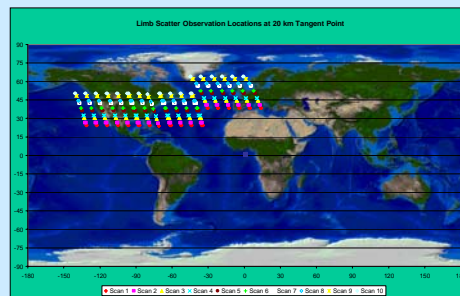
Ozone and NO₂ retrievals. Comparison with Sondes, OSIRIS, RAQMS

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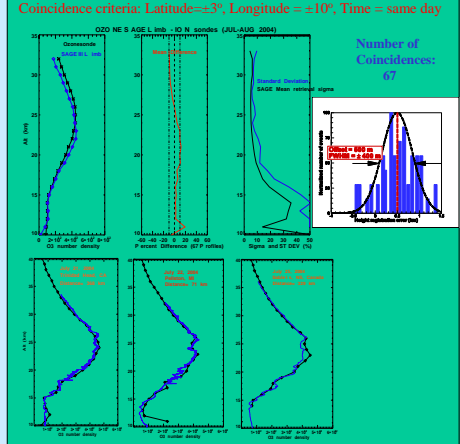
Purpose of research

- Use SAGE III newly developed limb scatter capabilities to make Ozone and NO₂ density profiling over the geographical area covered by INTEX campaign.
- Cross validate retrieved Ozone profiles with IONS Sondes, RAQMS model, OSIRIS.
- Cross validate retrieved NO₂ profiles with RAQMS and OSIRIS

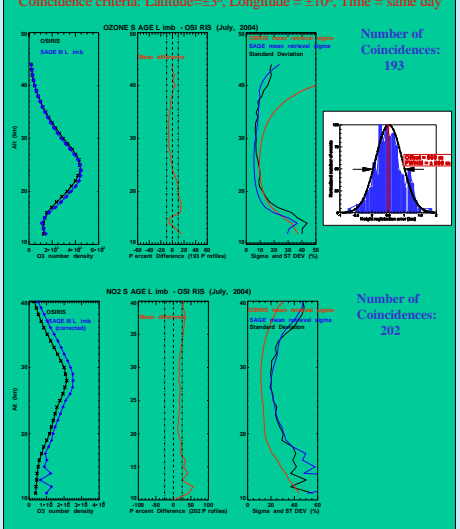
Geographical coverage



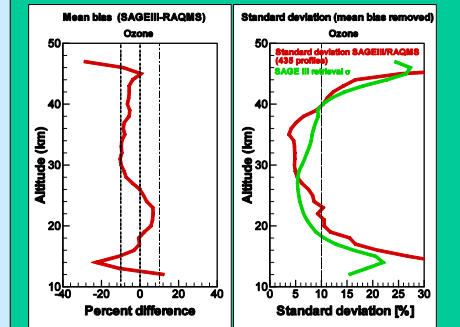
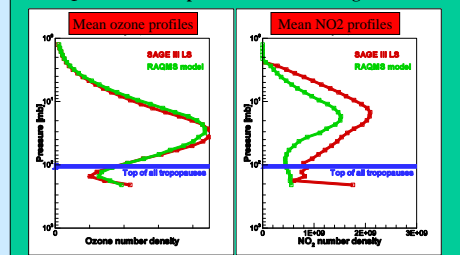
SAGE III (LS) vs. Ozone sondes (IONS)



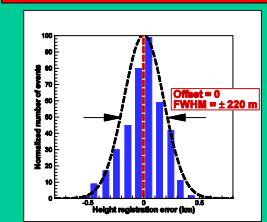
SAGE III (LS) vs. OSIRIS O₃ & NO₂



Comparison RAQMS – SAGE III for July, 2004

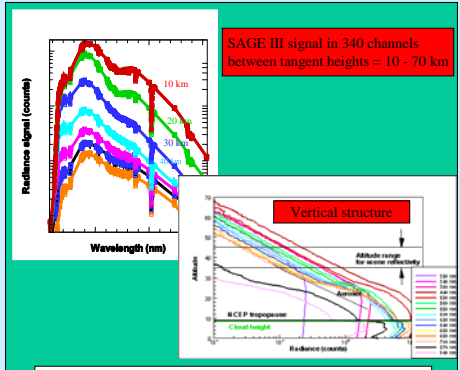
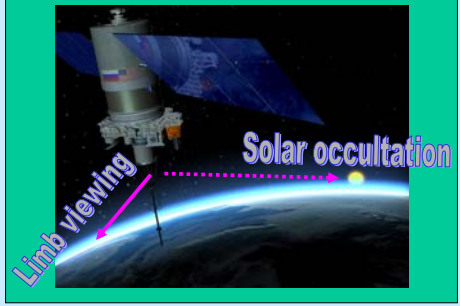
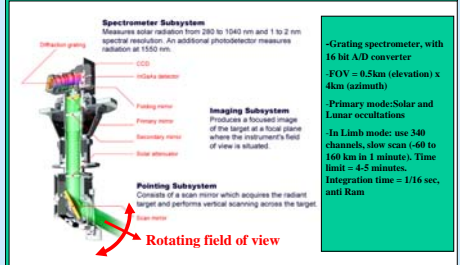


Estimate of height registration error



Stratospheric Aerosol and Gas Experiment (SAGE III)

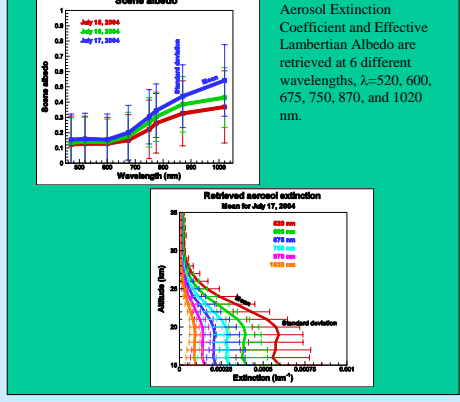
SAGE III is the latest of the SAM / SAGE family of instruments which have been used in the past 25 years to profile Ozone, Aerosol and other trace gas species (mainly NO₂, H₂O). Its primary mode of operation is Solar/Lunar occultation



Inversion Methods and available products

- Ozone: Multiple Linear Regression, Multiple triplets. Use Chappuis (10-40km) and Huggins bands (35-50km)
- NO₂: Multiple Linear Regression (430-450nm)
- Aerosol: residual data over model (520,600,670,750,870,1020nm)
- Cloud height: Structure in radiance profiles (750,870,1020nm)
- Surface albedo: matching model to data above 35km (520,600, 670,750,870,1020nm)
- Scene inhomogeneity: Straylight magnitude

Other products



Acknowledgment

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