

SAHARAN DUST OVER A CENTRAL EUROPEAN EARLINET-AERONET SITE: COMBINED OBSERVATIONS WITH RAMAN LIDAR AND SUN PHOTOMETER



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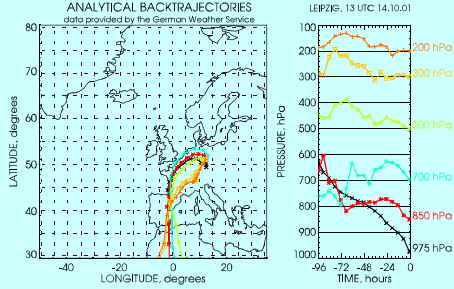
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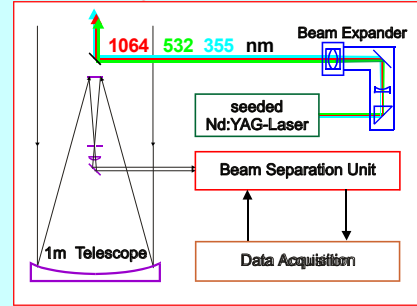
Dust Outbreak

Analytical Backward Trajectories
Arriving at Leipzig, 1300 UTC, 14 October, 2001



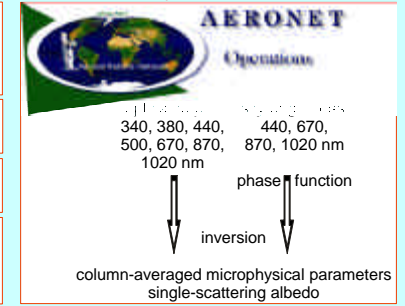
Instruments

Dual-wavelength aerosol Raman lidar



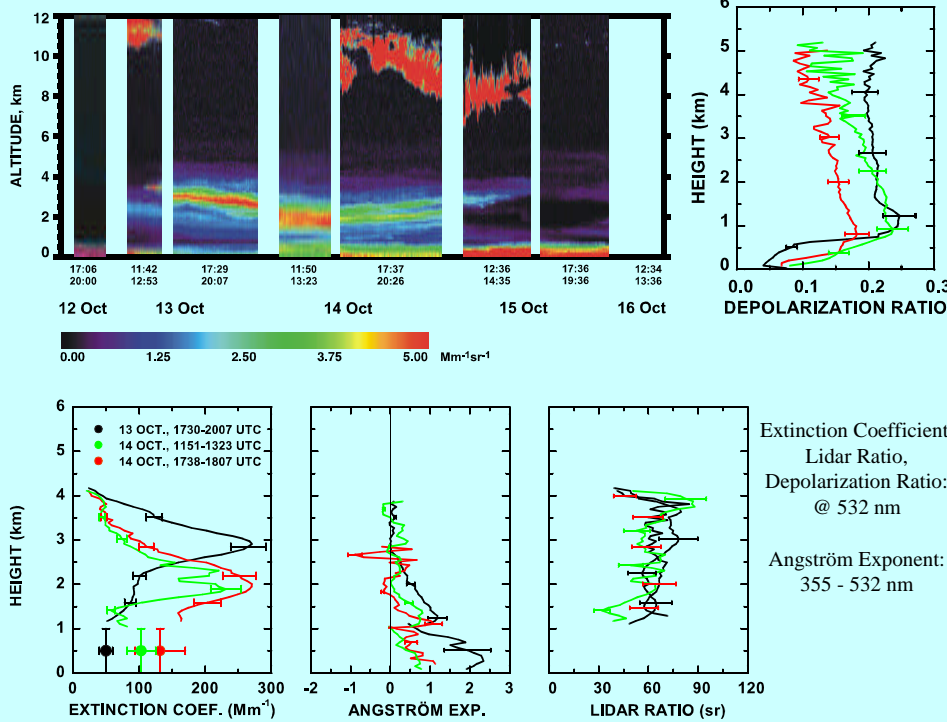
Backscatter	355	β_{aer}
	387	β_{aer}
	532 I	β_{aer}
	532 II	β_{aer}
	607	β_{aer}
	1064	β_{aer}
Extinction	355	α_{aer}
	387	α_{aer}
	607	α_{aer}
Humidity	357	m_{H_2O}
	407	m_{H_2O}
Temperature	529.0	T1
	530.3	T
	533.7	T2
	535.0	T

CIMEL Sun/sky radiometer

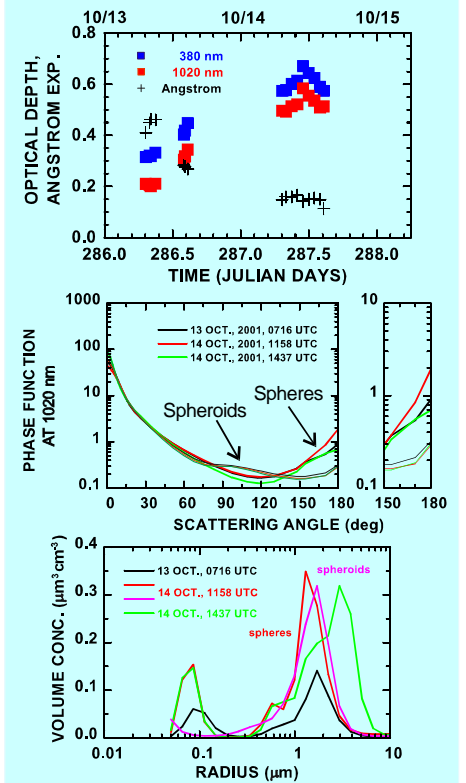


LIDAR Observations

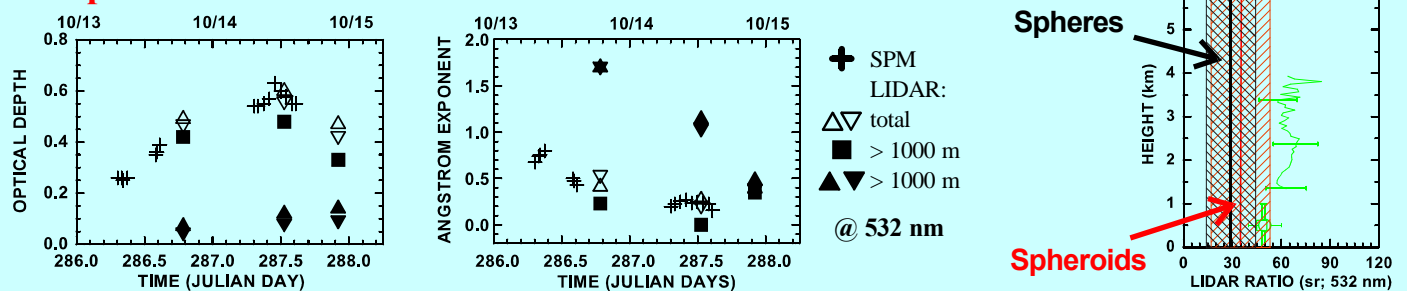
BACKSCATTER COEFFICIENT (Klett method), 532 nm, res. 60 m, 30 s
Raman Lidar, Leipzig (51.35 N, 12.43 E), 12-16 Oct 2001



Sun Photometer Observations



Comparison: LIDAR - Sun Photometer



Summary

- lidar: profile information
- aerosol model used in SPM retrieval scheme cannot reproduce lidar ratio
- SPM: column information
- improved aerosol model needed