# Seminários CGE/UE

## Pollution in the free troposphere: Geometrical, optical, and microphysical characterization with multiwavelength raman lidars

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**Hora:** 17H 00m

**Data:** 13 de Outubro de 2006

**Local:** Anf. 1, - Colégio Luís António Verney

**Promove:** Centro de Geofísica de Évora

## Resumo

We analyzed multiwavelength Raman lidar observations which were performed during 1997-2004 at Leipzig, Germany, 1997 in Portugal and 1999/2000 at the Maldives. Free-tropospheric aerosol layers were advected to the three measurement sites from different source regions. Trajectory analysis and tracer calculations were used to identify mineral dust from Africa and Arabia, forest-fire smoke from Siberia and North America, anthropogenic pollution from India, Southeast Asia, North America and Europe as well as aged anthropogenic aerosols from polar regions. We characterized the aerosol types from the different source regions in terms of frequency of occurrence, geometrical, optical and microphysical properties. The aerosol types (marine particles, mineral dust, forest-fire smoke, and anthropogenic particles) can be distinguished by their characteristic signatures in effective radius, single-scattering albedo (ssa), depolarization, and in the wavelength dependence of backscattering, lidar ratio, and extinction.