



DETERMINATION OF THE VERTICAL EXTINCTION COEFFICIENT PROFILE IN THE ATMOSPHERIC BOUNDARY LAYER AND THE FREE TROPOSPHERE

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Elastic lidars were deployed in Baltimore (USA) and Jungfraujoch (Switzerland) with the goal of determining aerosol vertical extinction coefficient profiles in the atmospheric boundary layer (ABL) and free troposphere, respectively. This talk focuses on a comparison of methods to obtain the vertical extinction coefficient, specifically, 1) One Angle Method (OAM), 2) Optical Depth Method (ODM) and 3) Klett Method. The reference extinction coefficient values for the near point in the first method were obtained using Mie theory with particle size distribution and estimates of the refractive index from supporting ground measurements. For the ODM we use the optical depth measurements using a sun photometer. The reference far field value for the Klett method was obtained using standard atmospheric profiles.