



## **Statistical characteristics of atmospheric aerosol as determined from AERONET measurements**

Jongmin Yoon (1) and Alexander Kokhanovsky (2)

(1) Max-Planck-Institute for Chemistry, Atmospheric Chemistry Department, Mainz, Germany (jongmin.yoon@mpic.de), (2) EUMETSAT, Eumetsat-Allee 1, 64295 Darmstadt, Germany

Seasonal means and standard deviations of column-integrated aerosol optical properties (e.g. spectral aerosol optical thickness (AOT), single scattering albedo, phase function, Ångström exponent, volume particle size distribution, complex refractive index, absorbing aerosol optical thickness) from several Aerosol Robotic Network (AERONET) sites located in typical aerosol source and background regions are investigated (Holben et al., 1998). The AERONET program is an inclusive network of ground-based sun-photometers that measure atmospheric aerosol optical properties (<http://aeronet.gsfc.nasa.gov/>). The results can be used for improving the accuracy of satellite-retrieved AOT, assessments of the global aerosol models, studies of atmospheric pollution and aerosol radiative forcing on climate. We have paid a special attention to several AERONET sites that are Mexico\_City (Mexico), Alta\_Floresta (Brazil), Avignon (France), Solar\_Village (Saudi Arabia), and Midway\_Island (Pacific) representative for industrial/urban, biomass burning, rural, desert dust and oceanic aerosols, respectively. We have found that the optical and microphysical aerosol properties are highly dependent on the local aerosol emission sources and seasonal meteorological conditions.