

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Study of Aerosol Chemical Composition Based on Aerosol Optical Properties¹ AUSTIN BERRY, RUDRA ARYAL, Eckerd College — We investigated the variation of aerosol absorption optical properties obtained from the CIMEL Sun-Photometer measurements over three years (2012-2014) at three AERONET sites GSFC; MD Science.Center and Tudor Hill, Bermuda. These sites were chosen based on the availability of data and locations that can receive different types of aerosols from land and ocean. These absorption properties, mainly the aerosol absorption angstrom exponent, were analyzed to examine the corresponding aerosol chemical composition. We observed that the retrieved absorption angstrom exponents over the two sites, GSFC and MD Science Center, are near 1 (the theoretical value for black carbon) and with low single scattering albedo values during summer seasons indicating presence of black carbon. Strong variability of aerosol absorption properties were observed over Tudor Hill and will be analyzed based on the air mass embedded from ocean side and land side. We will also present the seasonal variability of these properties based on long-range air mass sources at these three sites.

¹Brent Holben, NASA GSFC, AERONET, Jon Rodriguez

Austin Berry
Eckerd College

Date submitted: 11 Nov 2014

Electronic form version 1.4