

Abstract Submitted
for the NES17 Meeting of
The American Physical Society

Estimation of Atmospheric Aerosol Extent WILLIAM TUXBURY, CHRIS OVILLE, JALAL BUTT, JAMES KULOWIEC, NIMMI SHARMA, Central Connecticut State University — Data from two different instruments were combined to derive estimates of atmospheric aerosol extent for multiple evenings in the New England region. The vertical extent of atmospheric aerosols impacts atmospheric chemistry and dynamics and is an important input for atmospheric modeling studies. At Central Connecticut State University (CCSU), laser light pulses were transmitted vertically into the atmosphere and the intensity of the laser side-scatter from atmospheric aerosols and air molecules was measured. In addition data were obtained from balloon-borne direct sampling instruments within 175 miles of CCSU and within less than 5 hours of the laser intensity data. This study used analytical methods to improve upon preliminary visual estimates of vertical aerosol extent from the datasets. Methods employed include primarily numerical derivatives and differentiating functions that were curve fit to sets of data. Aerosol extent estimates from the different datasets are compared.

Nimmi Sharma
Central Connecticut State University

Date submitted: 20 Mar 2017

Electronic form version 1.4