

Abstract Submitted
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Particle size concentration and meteorological parameter dynamics ANDREW DUGGLEBY, Virginia Tech, JAMES REGENS, University of Oklahoma Health Sciences Center, KENNETH BALL, Virginia Tech — A proper orthogonal decomposition of particle size concentration and meteorological parameter dynamics is performed on data collected from 12:45 pm CDT on 18 July 2004 until 1:00 pm CDT on 22 July 2004 using an Aerodynamic Particle Sizer spectrometer and a modular weather station. The sampling station was located at 60 feet above ground level on the roof of the College of Health Building on the University of Oklahoma Health Sciences Center campus in Oklahoma City, and it sampled data every 15 minutes. The effect of the meteorological conditions of temperature, humidity, pressure, wind speed, and wind direction on particle concentration dynamics is examined. Most of the dynamical fluctuations occur at particle sizes below 1 micron, temperature and humidity have the most effect on the dynamics, and the wind speed and direction have a smaller effect. Discussions will include the potential effects of rush-hour traffic and diurnal meteorological patterns on the particle size distributions.

Andrew Duggleby
Virginia Tech

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