

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Use of Cavity Ring Down Spectroscopy to Characterize Organic Acids and Aerosols Emitted in Biomass Burning¹

SOLOMON BILILIGN, Department of Physics and NOAA-ISET Center North Carolina A&T State University, Greensboro, NC, MARC FIDLER, NOAA-ISET Center, North Carolina A&T State University, Greensboro, NC, SUJEETA SINGH, Energy and Environmental Systems, North Carolina A&T State University, Greensboro, NC — One poorly understood, but significant class of volatile organic compounds (VOC) present in biomass burning is gas-phase organic acids and inorganic acids. These acids are extremely difficult to measure because of their adsorptive nature. Particulates and aerosols are also produced during biomass burning and impact the radiation budget of the Earth and, hence, impact global climate. Use cavity ring down spectroscopy (CRD) to measure absorption cross sections for OH overtone induced photochemistry in some organic acids (acetic acid and peracetic acid) will be presented and planned measurements of optical properties of aerosols composed of mixtures of different absorbing and non-absorbing species using CRD will be discussed.

¹The Authors acknowledge the support of the National Science Foundation under grant Number: 0803016.

Solomon Bililign
Department of Physics and NOAA-ISET Center
North Carolina A&T State University, Greensboro, NC

Date submitted: 13 Nov 2011

Electronic form version 1.4