

Abstract Submitted  
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**PIXE Analysis of Atmospheric Aerosol Samples Collected in the Adirondack Mountains** JOSH YOSKOWITZ, SALINA ALI, BENJAMIN NADARESKI, ALEXANDREA SAFIQ, JEREMY SMITH, SCOTT LABRAKE, MICHAEL VINEYARD, Union College — We have performed an elemental analysis of atmospheric aerosol samples collected at Piseco Lake in Upstate New York using proton induced x-ray emission spectroscopy (PIXE). This work is part of a systematic study of airborne pollution in the Adirondack Mountains. Of particular interest is the sulfur content that can contribute to acid rain, a well-documented problem in the Adirondacks. We used a nine-stage cascade impactor to collect the samples and distribute the particulate matter onto Kapton foils by particle size. The PIXE experiments were performed with 2.2-MeV proton beams from the 1.1-MV pelletron accelerator in the Union College Ion-Beam Analysis Laboratory. X-Ray energy spectra were measured with a silicon drift detector and analyzed with GUPIX software to determine the elemental concentrations of the aerosols. A broad range of elements from silicon to zinc were detected with significant sulfur concentrations measured for particulate matter between 0.25 and 0.5  $\mu\text{m}$  in size. The PIXE analysis will be described and preliminary results will be presented.

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