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**Particle Induced X-Ray Emission Analysis of Atmospheric Aerosols Collected in Upstate New York** COLIN GLEASON, CHARLES HARRINGTON, KATIE SCHUFF, SCOTT LABRAKE, MICHAEL VINEYARD, Union College — Elemental analysis of atmospheric aerosols collected in the historic Stockade District of Schenectady, New York, was performed using particle induced X-ray emission (PIXE) spectroscopy. This is part of a systematic study in the Mohawk River Valley of upstate New York to identify the sources and understand the transport, transformation, and effects of airborne pollutants and the connection between aerosols, the deposition of pollution, and the uptake of pollutants by wildlife and vegetation. The atmospheric aerosols were collected with a nine-stage cascade impactor that allows for the analysis of the particulate matter as a function of particle size. The samples were bombarded with 2-MeV proton beams from the Union College Pelletron Accelerator and the energy spectra of the X-rays were measured with a silicon drift detector. The X-ray spectra were analyzed using GUPIX software to extract the elemental concentrations of the particulate matter. The sample collection and analysis will be described, and preliminary results will be presented.

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