

Abstract Submitted  
for the 4CF09 Meeting of  
The American Physical Society

**Using X-ray Fluorescence to Date Petroglyphs** JAMES MCNEIL,  
Colorado School of Mines — Petroglyphs were created by ancient peoples of the Colorado Plateau who pecked figures of cultural or religious significance into the desert varnish, the ubiquitous dark patina covering the rock surfaces of the region. Manganese (Mn) is a significant elemental component of desert varnish that is often at trace levels in the substrate rock. As such, F. Lytle has shown that under certain conditions, it may be possible to estimate the age of petroglyphs using Mn levels. In this work we use x-ray fluorescence to measure Mn levels in the desert varnish of petroglyphs and then use dated graffiti to attempt to calibrate the Mn level with age. Preliminary results from petroglyph panels in eastern Utah will be presented.

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Date submitted: 08 Oct 2009

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