Abstract Submitted
for the PSF12 Meeting of
The American Physical Society

Cosmogenic nuclide production within Earth's atmosphere and long period comets ANDREW OVERHOLT, MidAmerica Nazarene University — Our atmosphere is continually bombarded by cosmic rays. These high energy particles create showers of secondary particles produced in collisions with the atmosphere. As rare isotopes are produced in these showers they have served as an indicator of cosmic ray climate. Our work simulates these showers both in the Earth's atmosphere and on long period comets. Long period comets spend a large amount of time outside the protection of the heliosphere where cosmic ray flux is greatly increased. Our work shows that this environment produces an abundance of cosmogenic nuclides on the comet. We find that the amount of ^{14}C produced on large comets may be sufficient for creating anomalies within the ^{14}C record.

Andrew Overholt
MidAmerica Nazarene University

Date submitted: 05 Oct 2012 Electronic form version 1.4