

UNH Sensor Should Be Safe from This Year's Leonid Meteor Shower

Precautions taken nevertheless, says UNH space science researcher

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DURHAM, N.H. -- Last year, there were crossed fingers and anxious phone calls as University of New Hampshire space scientists hoped their orbiting sensor wouldn't be blasted into non-existence by the annual Leonid meteor storm.

The Leonids are back this month -- Earth passes through the storm Nov. 17 -- and while they're closer to Earth, "this time, the spacecraft is not in the center of the shooting gallery," says UNH Professor Eberhard Moebius.

The storm consists of tiny sand-like particles traveling faster than 140,000 mph, a trail of space debris from the Comet Tempel-Tuttle. Concerns were raised last year that the storm would damage orbiting satellites, among them NASA's Advanced Composition Explorer (ACE), which carries the Solar Energetic Particle Ionic Charge Analyzer (SEPICA), developed by Moebius and others at the [UNH Institute for the Study of Earth, Oceans and Space](#).

Back in 1998, NASA operators tilted ACE to move the detectors out of harm's way, and they were successful. The angle last year was 20 degrees. This year, says Moebius, the precaution is a mere six degrees. But that should be enough, since ACE this year is orbiting further away from the storm path.

SEPICA examines the composition of accelerated particles from solar flares and is designed to measure the temperature at their origin. It uses a detector similar to a Geiger counter, in which gas is trapped within very thin window-like apertures. For these thin windows, even the smallest dust grains trailing Comet Tempel-Tuttle are like bullets.

Moebius points out that while his instrument is safe, the projected path of the storm puts it closer to Earth, so the last year's lackluster viewing is expected to improve. Back in 1966, there was a spectacular Leonid storm,

with some sky-watchers counting more than 100,000
meteors an hour.

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