
JOURNAL CLUB

The HEX Sounding Rocket Experiment

by

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ABSTRACT

One month ago, the HEX sounding rocket experiment was launched from UAF's Poker Flat Research Range. This launch was the culmination of a two-year Geophysical Institute led collaboration between UAF, Clemson University, NASA, and NASA's sounding rocket contractor, NSROC. In a first for NASA, the HEX rocket was re-oriented in flight, prior to igniting its third-stage motor. This maneuver worked perfectly. As a result, we were for the first time able to fly a rocket payload through a stable auroral arc along a nearly flat trajectory, in this case at an altitude of 155-km. While traversing the arc, one portion of the payload released a glowing trail of tri-methyl aluminum (TMA), which we photographed from five ground-based locations across northern Alaska. These photographs recorded the drift of the TMA trail across the sky, allowing us to measure winds near the auroral arc. Also during the arc traverse, two UAF-built instruments made in-situ measurements of the aurora itself. In this talk, I will begin with a brief overview of the experiment and its objectives. I will then present a slide-show illustrating the instrument development and testing, as well as launch operations at Poker Flat and at our numerous remote field sites. I will conclude by presenting some initial results from this very successful mission.

Friday, April 25, 2003
Elvey Bldg. Globe Room
3:45 pm