

Final rocket launches, measures aurora movement

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It's been a long wait, but it was worth it. The Black Brant XII sounding rocket with the CASCADES II experiment launched and flew through an active aurora display March 20 at 3:04 a.m. Alaska Daylight Time. The successful launch occurred after 20 nights of preparing and then waiting to launch the NASA rocket. The CASCADES II team needed very specific conditions and clear weather for an optimal launch.

Dr. Kristina Lynch, the principal investigator for [CASCADES II](#), is from Dartmouth College. For more than a month, Lynch has spent her days in Fairbanks and her evenings at Poker Flat Research Range, near Chatanika. Snow, strong winds and minimal [aurora](#) made for a significant delay in the [launch](#). However, waiting was the right thing to do. When the [rocket](#) launched, it supplied an ideal performance.

"The trajectory looks great. The deployments and the mechanical systems behaved beautifully," Lynch said. "We're very happy. We had a beautiful event."

The four-stage rocket, measuring more than 60 feet long, arced through the aurora, reaching its peak about 350 miles over Kaktovik. At that time, its payload separated into five different probes that simultaneously measured aurora movement. Analysis of preliminary data from the complex payload will begin today, Lynch said. Cameras stationed at Toolik Lake and Kaktovik, on Alaska's [North Slope](#), captured the CASCADES II experiment.

CASCADES II is the final rocket to launch in 2009 from Poker Flat Research Range. Range staff supported the launch of eight rockets this year, and worked with principal investigators from the University of Alaska Fairbanks, the University of Iowa, Clemson University, and Dartmouth College.

Poker Flat Research Range is the largest land-based sounding rocket range in the world. It's located 30 miles north of Fairbanks on the Steese Highway. The Geophysical Institute at UAF operates the range under contract to [NASA](#).

Source: University of Alaska Fairbanks

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