

Final rocket of 2010 launches from Poker Flat

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Fairbanks, Alaska—During a vivid aurora display, a NASA sounding rocket launched from Poker Flat Research Range and arced over northern Alaska at 12:49 a.m. Alaska Standard Time on Feb. 16, 2010. The rocket, one of the largest used at Poker Flat, flew high over Kaktovik, gathering data on electric particle and wave interactions in the upper atmosphere.

“We got into a beautiful (auroral) arc,” said the leader of the experiment, Jim LaBelle of Dartmouth College. “It was the first active night in a long time. The rocket appears to have functioned well and we have a nice dataset.”

NASA officials at the range launched a 50-foot Black Brant XII rocket that reached its highest point above Kaktovik, located on Alaska’s northern coast.

“It was supposed to go up to 803 kilometers (about 500 miles above the ground) and it got to 802.7,” LaBelle said.

Far above Kaktovik and even above the visible aurora, the rocket nose cone separated and exposed eight fist-sized instruments that sampled electric particles in the upper atmosphere. Also attached to the rocket were two probes extending like arms. The probes contained instruments that sampled waves that sometimes accelerate the particles to high energies, which creates dazzling aurora displays.

“We’re using the aurora as a lab to study wave-particle interactions throughout space,” LaBelle said. “We hope to catch these waves and particles in the act of exchanging energy and momentum.”

The instruments transmitted their data back to Poker Flat Research Range and the instrumented stage of the rocket landed on the sea ice more than 400 miles north of Kaktovik. The researchers will not recover the instruments.

Though the scientists will have to wait for all the data, “we think all the ingredients are there for our science,” LaBelle said. Data from the launch will be part of the doctoral work of two students, one from Dartmouth and one from Iowa, and will aid LaBelle’s studies.

Poker Flat Research Range is the largest land-based sounding rocket range in the world. The Geophysical Institute operates the range, which is located 30 miles north of Fairbanks, under contract to NASA.

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NOTE TO EDITORS: A photo of the launch is available for download at www.uaf.edu/news.