

6 aurora-research rockets to launch from Poker Flat

February 9 2007

Scientists from the University of Alaska Fairbanks and the University of New Hampshire have experiments ready on the launch rails at Poker Flat Research Range north of Fairbanks, and another scientist is waiting in New Hampshire to launch an additional experiment from Poker Flat.

The experiments are being flown on NASA sounding rockets. NASA is launching 10 of the suborbital rockets from Poker Flat during January and February. Four successful launches occurred in January.

Marc Lessard, a research associate professor at the University of New Hampshire, will use a 65-foot-tall Black Brant XII rocket in a mission called ROPA to gather more information about the power source behind pulsating auroras, which blink on and off in large round patches.

John Craven, a professor of physics at the Geophysical Institute of the University of Alaska Fairbanks, is the lead scientist on a four-rocket mission called HEX 2 in which he and his colleagues will learn more about upper-atmospheric winds associated with the aurora. Three of Craven's rockets will arc in a traditional fashion while releasing a visible tracer. Controllers will tip the fourth rocket horizontally. It too will release a visible trail through the aurora. The tracer chemicals, which rockets will emit in puffs, should be visible within the aurora to watchers on the ground.

Both launches will occur any night with the right conditions—clear skies, and for the moon to be below the horizon. Lessard is waiting for a

pulsating aurora, a subtle type of aurora that occurs after more typical curtain-type displays. Craven is waiting for a strong aurora over the Fort Yukon and Chandalar Lake latitude that lasts for 30 minutes or more.

After one or both of those missions launch, Jim LaBelle, a professor of physics and astronomy at Dartmouth College, will fly from New Hampshire to Fairbanks to prepare for the launch that will support his research. In an experiment called CHARM, LaBelle will use one Black Brant XII rocket to study waves generated by the aurora. He needs a very active aurora north of Kaktovik to obtain the best results.

All launches will occur from Poker Flat Research Range. The Geophysical Institute operates and maintains the range, located 30 miles north of Fairbanks off the Steese Highway.

Source: University of Alaska Fairbanks

Citation: 6 aurora-research rockets to launch from Poker Flat (2007, February 9) retrieved 6 May 2024 from <https://phys.org/news/2007-02-aurora-research-rockets-poker-flat.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.