

SCIFER 2 (Sounding of the Cleft Ion Fountain Energization Region Two)  
Friday January 18, 2008 Update

SCIFER 2 SUCCESSFULLY LAUNCHED, ALL INSTRUMENTS WORKED AND  
RECEIVED  
EXCELLENT DATA, SCIENCE CONDITIONS WERE IDEAL

Breaking news:

The sixteenth window for SCIFER 2 opened at 0500 UT. The solar wind conditions looked favorable for launch at the beginning although locally we were clouded over. Aurora were spotted to the north of us at about 0600 UT and periods of IMF Bz < 0 began in the solar wind. At 0630 UT the winds cleared the clouds from the sky and we waited for the aurora to move southward which began slowly at 0700 UT. The count was first picked up at 0700 UT in preparation. The count was then stopped at T-3:00 in order to clear the second stage impact zone of fishing boats which took about 20 min. At about 0725 UT the decision was made to launch and the rocket was launched exactly at 0730 UT. All instruments functioned as planned and showed active and exciting data over the course of the flight. The ground observations were also excellent with many aurora observed overhead and the EISCAT radar showing the ion upflows critical for the science objectives. The initial trajectory showed the payload passing very, very near to overhead which is pure luck. In addition the Japanese scientific satellite REIMEI appeared to pass directly under SCIFER 2 at apogee and the ESA satellite CHAMP passed overhead about 20 minutes later..

The SCIFER science team thanks the UNIS and KHO observatory staff especially professors Fred Sigernes, Dag Lorentzen and Kjellmar Oksavik. Dr. Ogawa of the Japanese National Institute of Polar Research was critical to the interpretation of EISCAT data and made a personal sacrifice to extend his stay in Svalbard supporting the rocket launch. Dr. Anja Stromme coordinated the EISCAT radar hours for the campaign. We are pleased that five Ph. D. students participated in the SCIFER 2 campaign, Margit Dyrland and Jeff Holmes from UNIS, Magnar Johnsen from Tromso, Meghan Mella from Dartmouth, and Erik Lundberg from Cornell. The SCIFER 2 campaign was an international collaboration with scientists from Norway, Japan, Sweden, United Kingdom, and China enabling the rocket launch and contributing data toward SCIFER 2 science objectives.

More importantly we broke the curse of SCIFER 1 and did NOT cause the Russians to start WWII.

Local color: The final picture is a collage of images from the campaign and rocket flight. The all sky camera image of aurora was taken at SCIFER 2 apogee. The trajectory of the rocket passed virtually over our heads at Longyearbyen. Our mascot seen lower left is PhD student Margit's sled

dog whose name is Raven. Finally are some images of dealing with the snow and dark. The Svalbard science team at top from right to left is Mark Lessard, Meghan Mella, Fred Sigenes, Erik Lundberg, Dag Lorentzen, Jeff Holmes, Magnar Johnsen, Margit Dyrland, and myself;

#### Space Weather Conditions

The space weather conditions were variable today. The solar wind velocity was about 700 km/s and the magnetic field was 5-6 nT. The IMF Bz had extended periods of southward direction

#### Current Weather Conditions:

Longyearbyen: Temperature  $\sim 9$  C and reasonably calm with just a hint of twilight at noon, quite adequate for a 10k jog.

Rocket/Payload status: The payload is off the launcher and is lying in the snow and ice somewhere north of us.

#### Scientist locations on January 18, 2008:

Paul Kintner	Longyearbyen
Erik Lundberg	Longyearbyen
Mark Lessard	Longyearbyen
Kristina Lynch	Andenes
Meghan Mella	Longyearbyen

#### Phone numbers for science launch operations

Backup Science Center at UNIS, Longyearbyen 79 02 64 48

KHO Auroral Observatory 79 02 64 70 or 71

EISCAT 79 02 12 36

CUTLASS Ops 44-116-252-3520