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SORCE Mission Status

Launch Date Update –

The SORCE launch remains set for January 25 from Kennedy Space Center (KSC). The Pegasus launch vehicle has been refurbished and there is no reason to think that SORCE will not launch on January 25 as currently planned. KSC will be shut down to all launching for the month of February.
The ICESat and SORCE launches were originally scheduled within one week of each other in December. Although never really an issue, the SORCE delay will create a calmer working environment for LASP's Mission Operations staff.

Kennedy Space Center Activity –

When the launch date was moved into January, the SORCE spacecraft was bagged, the purge line set to provide a clean positive pressure environment, and the clean room doors were closed and locked for several weeks. In early December, the doors were opened and work proceeded again on readying SORCE for launch. After a functionality checkout and recharging the battery, limited performance tests (LPTs) and analysis were run. The testing will continue with additional dry-run flight readiness testing, inspections, and meetings to review the system integrations, upcoming mates, and data handling. New microprocessor boot code was loaded and tested to make the mission more robust at the end-of-life.

The Pegasus for the SORCE payload arrived via a specially modified L-1011 carrier aircraft at KSC on December 17. The non-stop flight from Vandenberg Air Force Base in California was very routine. After the L-1011 landed, the Pegasus was separated from the aircraft and transported on a large trailer to the High Bay integration area where testing on the Pegasus began. Testing on just the launch vehicle (Flight Simulation Tests 1 and 2) takes place for about two weeks before the payload separation system is

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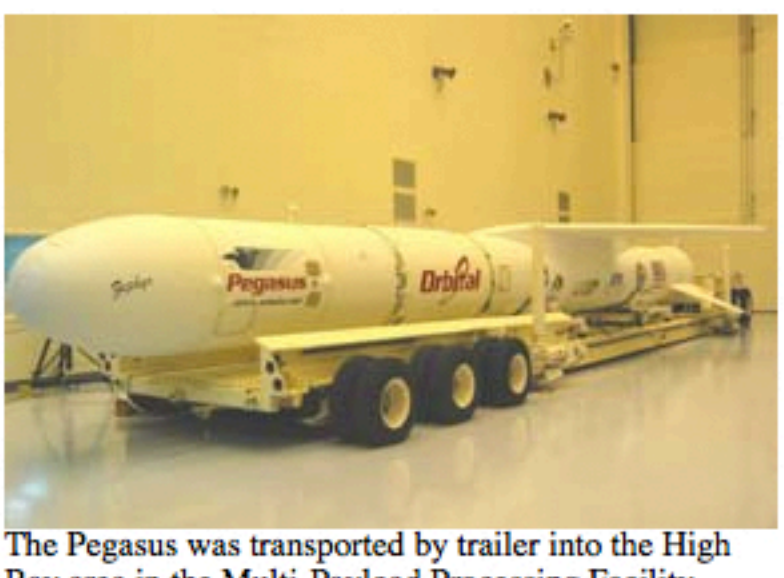
The mated Pegasus and spacecraft will be transported by trailer back out to the hot pad, located next to the runway, just days before the launch. Final launch preparations and testing will be performed at the hot pad from a van parked next to the area. To reunite the L-1011 and the Pegasus, the entire L-1011 aircraft is lifted by hydraulic jacks and then gently lowered onto the Pegasus and secured.



The Pegasus was transported by trailer into the High Bay area in the Multi-Payload Processing Facility (MPPF) for integration after arriving at KSC.

Tentative Dates for Upcoming Events:

1/5/03 Spacecraft/Pegasus Mate
1/15/03 Fairing Installation
1/20/03 Launch Rehearsal (KSC)
1/21/03 Flight Readiness Review (KSC)
1/22/03 Spacecraft/Pegasus Transported to Hot Pad
1/24/03 Launch Readiness Reviews (GSFC/KSC)
1/25/03 SORCE Launch (KSC)

LASP Activity –

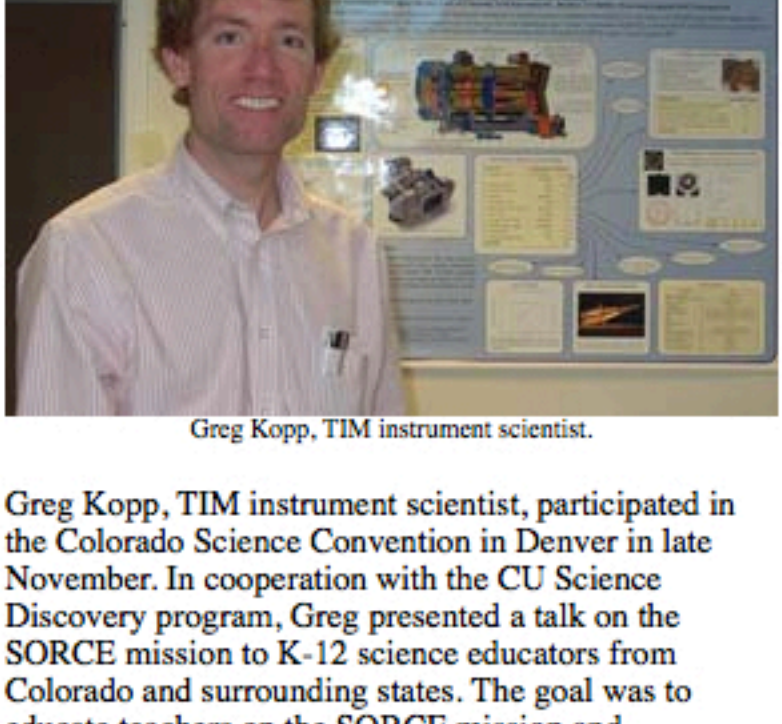
December has been an intense month at LASP for the Mission Operations team as they fine-tune the activity plans for launch and the first 30 days following launch. After initial spacecraft checkout and verification, the instruments will be activated one at a time. The sequence considerations include general contamination, solar exposure, and the SOLSTICE high voltage usage and stellar calibration needs. The goal is to make the activation process as efficient as possible, with instrument safety a priority. A 2-day dry run test for instrument commissioning is scheduled for early January. The plan allows the instruments to begin collecting test data immediately after they are activated through windows in the instrument doors. After a brief out-gassing period to reduce self-contamination, the doors will be opened and true data will be collected for the next 5 years.

In mid January the Orbital personnel who have worked on the SORCE software, hardware, and mission development will visit Boulder for a final Mission Operations rehearsal. This rehearsal will focus on the first 36 hours of spacecraft operations after launch. Orbital personnel will participate in SORCE Mission Operation activities until after the launch when the spacecraft is stable, and when the instruments and the spacecraft are performing as expected.

The SORCE web page – http://lasp.colorado.edu/sorce – is changing weekly. The latest launch information is updated on-line. New items are being added including animations, photos, interviews, and interactive activities. After launch, the data collection and science will be prominent features of the site. If you have any comments or suggestions, please contact the SORCE web developer, Ann Windnagel (sorceweb@lasp.colorado.edu).

For those who do not have access to the web for the latest launch information, a special SORCE phone line has been activated. By calling (303) 735-3132 you can hear a recorded message regarding the status of the SORCE launch and any breaking news.

In preparation for launch, several SORCE public relations pieces are completed. The SORCE brochure is available by e-mailing vanessa.george@lasp.colorado.edu with your mailing address. LASP is preparing for the launch with new instrument photos for the lobby, and a large 10' wide by 7.5' tall SORCE display for outside the Mission Operations Center. The moveable display will feature the spacecraft, instruments, and a science overview of the SORCE mission and goals.



Greg Kopp, TIM instrument scientist.

Greg Kopp, TIM instrument scientist, participated in the Colorado Science Convention in Denver in late November. In cooperation with the CU Science Discovery program, Greg presented a talk on the SORCE mission to K-12 science educators from Colorado and surrounding states. The goal was to educate teachers on the SORCE mission and

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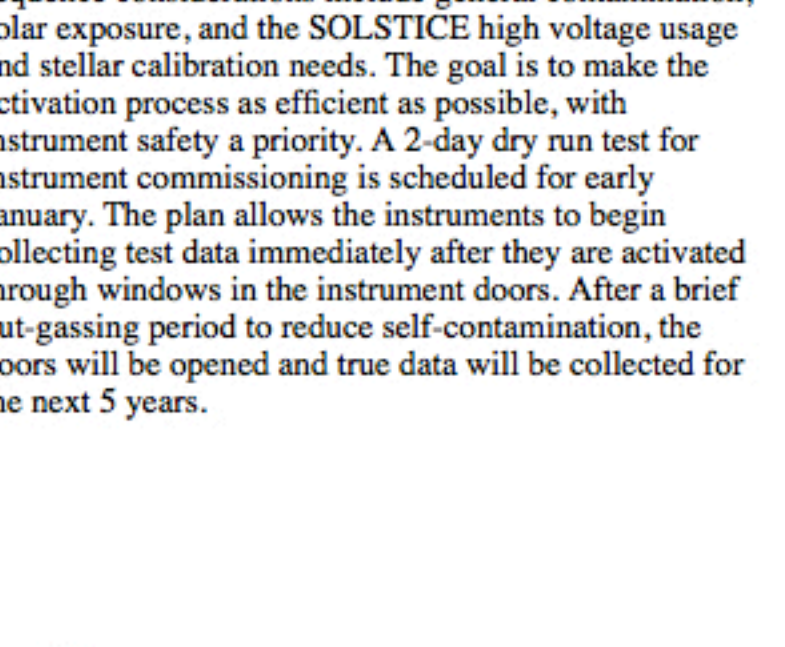
explore new ideas for demonstrating the concepts that will come from the SORCE research. Following Greg's talk, the CU Science Discovery team and Greg demonstrated the "SORCE Sun Kit" classroom presentation. The teachers were able to practice in the hands-on learning experiment. About 4,200 science teachers participated in this 2-day conference.



Science teachers learn how to use the hands-on "SORCE Sun Kit" experiment at the Colorado Science Convention in Denver. With a variable lamp simulating the changing Sun and a fog machine producing a scattering atmosphere, the teachers learn how to measure changing solar variability and the necessity of acquiring solar irradiance measurements from space. The goal is to demonstrate that the Sun's variability plays an active role in the Earth's climate.

Happy New Year!

Upcoming Meetings

SORCE scientists plan to present papers or attend the following 2003 meetings:

- AGU/European Geophysical Society
- (EGS)/European Union of Geosciences (EUG), April 6-11, 2003, Nice, France
- SORCE Science Team Meeting, Spring 2003, LASP, Boulder, Colorado
- AAS, Solar Physics Division, June 16-20, 2003, APL, Laurel, Maryland
- SORCE Science Team Meeting, Fall 2003, location – tbd

To submit information to this newsletter, please contact: vanessa.george@lasp.colorado.edu