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NASA AWARDS TWO SMALL EXPLORER DEVELOPMENT CONTRACTS

WASHINGTON -- NASA has selected two science proposals to be developed into full missions as part of the agency's Small Explorer, or SMEX, Program. The selections will implement projects that will study our sun and some of the most exotic objects in the universe, such as neutron stars and black holes.

Both missions will launch by 2015; the first could launch by the end of 2012. Mission costs will be capped at \$105 million each, excluding the launch vehicle.

"These two missions demonstrate the value of the Small Explorer Program," said Ed Weiler, associate administrator for NASA's Science Mission Directorate. "For a relatively small investment, we'll see an amazing amount of science generated."

The two winning proposals are:

1. Interface Region Imaging Spectrograph. Principal Investigator Alan M. Title, Lockheed Martin Advanced Technology Center, Palo Alto, Calif.

The Interface Region Imaging Spectrograph mission will use a solar telescope and spectrograph to explore the solar chromospheres. This is a crucial region for understanding energy transport into the solar wind and an archetype for stellar atmospheres. Recent discoveries have shown the chromosphere is significantly more dynamic and structured than previously thought. The unique instrument capabilities, coupled with state of the art 3-D modeling, will explore this dynamic region in detail. The mission will greatly extend the scientific output of existing heliophysics spacecraft that follow the effects of energy release processes from the sun to Earth.

2. Gravity and Extreme Magnetism SMEX. Principal Investigator Jean H. Swank, NASA's Goddard Space Flight Center, Greenbelt, Md.

Among the thousands of X-ray sources observed with prior and current X-ray satellites, only one astrophysical object, the Crab Nebula, has been measured in polarized X-rays. By providing an increase in sensitivity of more than 100 times, the Gravity and Extreme Magnetism SMEX mission will detect and measure the polarization of the X-rays emitted by some of the most energetic and enigmatic objects in the cosmos. These include ultra-dense neutron stars and stellar-mass

black holes, which are the remains of the dying explosions of very hot, massive stars, and ultra-massive black holes at the centers of distant galaxies. By studying the changes with time and energy of their polarized X-ray emission, the mission will probe the bending of space and the curving of light in regions of extreme gravity near these objects.

The SMEX Program is designed to provide frequent, low-cost access to space for heliophysics and astrophysics missions using small- to mid-sized spacecraft. The program also seeks to raise public awareness of NASA's space science missions through educational and public outreach activities. The winning proposals are the 12th and 13th Small Explorer missions selected for flight.

Goddard manages the Explorer program for NASA's Science Mission Directorate in Washington. For more information about the program, visit:

<http://explorers.gsfc.nasa.gov>

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<http://www.nasa.gov>

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