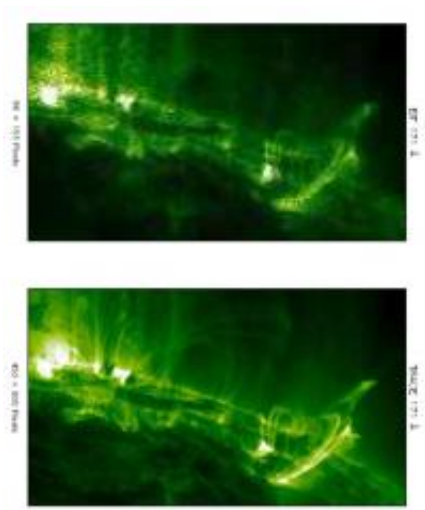


Hi-C to investigate activity in solar atmosphere

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Hi-C will image the Sun at a 5x higher resolution (0.1 arcsec/pixel image) than any previously done. The mission will demonstrate the technology necessary to collect 150-kilometer-resolution images of the sun in the extreme ultraviolet spectrum. Using a resolution 5 times greater than any previous imager, Hi-C will observe the small-scale processes that exist everywhere in hot magnetized coronal plasma. Above image is 0.5 arcsec/pixel. (NASA)

(Phys.org) -- NASA's Marshall Space Flight Center in Huntsville, Ala. is leading an international effort to develop and launch the High Resolution Coronal Imager, or Hi-C, on a sounding rocket from the White Sands Missile Range at White Sands, N.M. Hi-C is a next-generation suborbital space telescope designed to capture the highest-resolution images ever

taken of the million-degree solar corona. Key partners include the University of Alabama at Huntsville, Smithsonian Astrophysical Observatory, University of Central Lancashire in Lancashire, England, and the Lebedev Physical Institute of the Russian Academy of Sciences.

Understanding the sun's activity and its effects on Earth's environment is the critical scientific objective of Hi-C, which will provide unique, unprecedented views of the dynamic activity in the [solar atmosphere](#).

The telescope is slated for launch in July 2012. It will fly aboard a Black Brant sounding rocket to be launched from the White Sands Missile Range in New Mexico.

The mission will demonstrate the technology necessary to collect 150-kilometer-resolution images of the sun in the extreme [ultraviolet spectrum](#). Using a resolution 5 times greater than any previous imager, Hi-C will observe the small-scale processes that exist everywhere in hot magnetized coronal plasma. Additionally, the mission is designed to study the mechanisms for growth, diffusion and reconnection of magnetic fields of the corona, and to help understand the coupling of small-scale dynamic and eruptive processes to large scale dynamics.

A major scientific impact of Hi-C will be to place significant new constraints on theories of coronal heating and structuring, by establishing whether or not there is additional fine structure below the current level of resolution.

"This instrument could push the limits on theories of coronal heating, answering questions such as why the temperature of the sun's corona is millions of degrees higher than that of the surface," said Marshall heliophysicist, Dr. Jonathan Cirtain, who is Principle Investigator, on the Hi-C mission.

"Hinode has shown that current instrumentation used for coronal structure studies has insufficient resolution to separate individual features along the line-of-sight," Cirtain said. "Hi-C will accomplish this measurement, with margin".

Provided by NASA

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