



University of Massachusetts Lowell PICTURE-B Mission Completed

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Scientific mission used Northrop Grumman-built primary mirror to study nearby stars from a sounding rocket.

DEVENS, Mass., April 12, 2016 (GLOBE NEWSWIRE) -- Designed to significantly advance the science and technology supporting exoplanet research, the PICTURE-B mission of the Lowell Center for Space Science and Technology at the University of Massachusetts Lowell successfully launched and returned to Earth on Nov. 25, 2015 from NASA's White Sands, New Mexico Test Facility.

Using a primary mirror engineered and built by AOA Xinetics, a Northrop Grumman Corporation (NYSE:NOC) company, PICTURE-B observed the star Rigel from space and reached an apogee of 217 km. Northrop Grumman provided the mirror to UMass Lowell to support this important astrophysics program. The 22-inch diameter silicon carbide mirror successfully withstood launch and impact on landing, and will be used for future missions.

PICTURE-B (Planet Imaging Coronagraphic Technology Using a Reconfigurable Experimental Base) was designed to measure light reflected by dust in debris disks around nearby stars. Accurate measurements of dust are a critical part of exoplanet research, as the data enables astronomers to assess the impact of the debris and dust on their observations, thereby improving their ability to identify and study targeted planets.

"The data gathered by PICTURE-B will have an important impact on exoplanet exploration," said UMass Lowell Physics Prof. Supriya Chakrabarti, director of the Lowell Center for Space Science and Technology. "We are just starting to analyze the information collected during this extremely exciting project and we are very pleased that AOA Xinetics was able to build a mirror that could survive the flight to help make this mission, and future missions, a success."

To support the stringent scientific goals and minutes-long observation window of PICTURE-B, AOA Xinetics engineered a robust silicon carbide aspheric mirror with exceptional performance because of the optical figure and mission-matched material thermal properties.

"AOA Xinetics is honored to work with Dr. Chakrabarti and his team on the PICTURE-B mission and proud to support the efforts to identify earth-like planets," said Michael Sheedy, business area manager, AOA Xinetics, Northrop Grumman. "Our silicon carbide mirrors are a new generation of high performance, lightweight mirrors for astrophysics and missions like PICTURE-B that require both precision and durability to advance scientific discovery."

PICTURE-B is part of Northrop Grumman's continued focus on space as the next frontier for exploration. A worldwide leader in developing new technology to support current and future military and civil space programs, Northrop Grumman's innovation enables deep space discovery and advances knowledge of planet Earth.

AOA Xinetics, part of Northrop Grumman's aerospace products business unit, designs, develops, and manufactures a wide variety of standard and custom electro-optic and optomechanical systems for government, industrial and commercial customers. Since its inception, AOA Xinetics has been manipulating light from the corner grocer to the edges of the universe, providing customers with the highest quality products and services.

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