NASA Selects Boeing for Neptune Missions Study Grant

While Boeing [NYSE: BA] is preparing to deliver a proposal to NASA's Jet Propulsion Laboratory for what could become the nation's first nuclear-fission powered exploration spacecraft, the company also is using its unique space heritage and expertise to propel robotic solar system exploration farther than Jupiter.

NASA recently granted Boeing $250,000 to provide a technology development road map for supporting science objectives for a mission to Neptune under its Vision Missions studies program. Boeing, the only industrial entity to receive such a grant, is providing mission design solutions for a possible Neptune polar orbiter with atmospheric probes.

"We look forward to supporting NASA in its conquest of space," says Mike Mott, Boeing NASA Systems vice president and general manager. "We will use our experience in complex space systems to enable NASA to gain more scientific insights into the solar system."

Additionally, Boeing has joined two university-led Vision Missions teams providing robotic and human in-space assembly and servicing options for two possible space-based observatories. One is led by the University of Texas to study Vision Missions concepts for a Single Aperture Far Infrared (SAFIR) telescope and the other by Cornell University in its study of a Far-Infrared and Submillimeter Interferometer telescope (FIR/SMM). The universities were each awarded approximately $300,000 NASA Vision Missions grants.

University of Texas SAFIR principal science investigator Dan Lester says Boeing brings capabilities ranging from its nuclear heritage, to human space flight, to robotics, to the project study.

Cornell University principal science investigator Martin Harwit, professor emeritus of astronomy, says its FIR/SMM project team looks forward to taking advantage of the company's expertise in human and robotic assembly of complex payloads in space.

Like the gas giants Saturn and Jupiter, Neptune has no solid surface, and scientists believe further research of the planet's external and internal structures could yield greater insight into the processes that formed the solar system.

The Neptune Orbiter with Probes study will explore technological capabilities that would make a 21ST century second-decade flagship launch feasible and provide an assessment of nuclear-electric propulsion as a potential power source for the spacecraft. Dr. David Atkinson of the University of Idaho is the science principal investigator.

The SAFIR (pronounced SAPPHIRE) Vision Missions study is the first step toward approval and scheduling of the observatory, which could launch as soon as 2015. SAFIR is projected to be a supercooled space telescope studying the heavens in the far-infrared region of the spectrum and may provide insight into the nature of black holes and the identity of pre-biotic molecules present in planet forming regions.

The wide-field imaging FIR/SMM observatory would complement SAFIR and use an extended baseline to also scan the galaxy in the far-infrared region of the spectrum. The FIR/SMM telescope would search for the first stars to form in the universe, today's forming stars and the evolution of planetary systems around newly developing stars.

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