

First nano-satellite functional: NASA

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Washington: A miniature satellite sent in the space aboard an Atlas V rocket from the Vandenberg Air Force Base in California on October 8 is working fine, NASA has announced.

The Optical Communications and Sensor Demonstration (OCSD) CubeSat spacecraft is in orbit and operational, said NASA and The Aerospace Corporation of El Segundo, California on Monday.

CubeSats are going to play a key role in exploration, technology demonstration, scientific research and educational investigations.

They provide a low-cost platform for NASA missions, including planetary space exploration, Earth observations, fundamental Earth and space science.

“Technology demonstration missions like OCSD are driving exploration,” said Steve Jurczyk, associate administrator for the Space Technology Mission Directorate (STMD) at NASA headquarters in Washington, DC.

“By improving the communication capability of small spacecraft to support data-intensive science missions, OCSD will advance the potential to become a more viable option for mission planners,” he said in a statement.

CubeSats also allow an inexpensive means to engage students in all phases of satellite development, operation and exploitation through real-world, hands-on research and development experience.

OCSD is the first in a new series of six NASA-managed technology demonstration missions set to be launched during the coming months using CubeSats.

These will test technologies that can enable new uses for these miniature satellites which measure about four inches per side.

OCSD differs from other space-based laser communication systems because the laser is hard-mounted to the spacecraft body, and the orientation of the CubeSat controls the direction of the beam.

This makes the laser system more compact than anything previously flown in space.

The CubeSat will evaluate the ability to point a small satellite accurately as it demonstrates data transfer by laser at rates of up to 200 mb per second -- a factor of 100 increase over current high-end CubeSat communications systems.

The second OCSD mission is scheduled to be launched in February 2016.

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