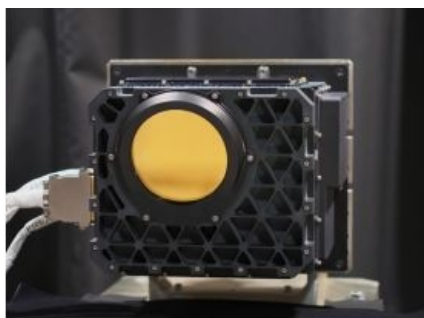


Teledyne Optech Lidar Launched in OSIRIS-REx Asteroid Mission



The OSIRIS-REx Laser Altimeter (OLA) was launched successfully from Cape Canaveral, USA, on Thursday 8 September. OLA was designed by scientists and engineers from Teledyne Optech and built by MacDonald, Dettwiler and Associates (MDA). It had been installed and tested aboard the OSIRIS-REx (Origins-Spectral Interpretation-Resource Identification-Security-Regolith Explorer) spacecraft.

[OSIRIS-Rex](#) will reach the asteroid Bennu by 2018. Upon reaching Bennu, OLA will scan the surface to create a high-resolution 3D map of the entire asteroid, which will help scientists understand its morphology and select the best spot for OSIRIS-REx to collect a sample of its surface material. This sample will be collected in 2020 and returned to Earth in 2023. Because Bennu is a carbonaceous asteroid that has likely changed very little

since the birth of the solar system, scientists hope that this mission will shed light on how the solar system developed.

OLA, one of the most advanced Lidar instruments ever used for such a mission, is equipped with a rapid scanning mirror and two separate lasers. While many earlier space missions have used simple laser rangefinders to measure the distance to their targets, OLA will use its scanning technology to spread its measurements over the entire asteroid, creating a 3D map of Bennu. The two lasers give OLA extra flexibility for long- and short-range operation: The long-range laser makes measurements from up to 7 km away as OSIRIS-REx approaches Bennu, while the short-range laser fires up to 10,000 times per second to create detailed maps quickly once OSIRIS-REx is in close orbit.

It has been over five years since this project started, said Dr Paul LaRocque, Teledyne Optech's vice president for special projects, and he stated to be very proud of the team that designed and delivered this sophisticated Lidar system. It was very exciting to see this launch day finally arrive and the team will eagerly await the first Lidar data.

OLA is not the first Teledyne Optech Lidar to travel into space. [Teledyne Optech](#) designed the atmospheric Lidar aboard NASA's Phoenix Mars Lander, which returned a trove of information about Martian weather, including proof that it actually snows on the red planet. In an application similar to that of OSIRIS-REx, Teledyne Optech also created the rendezvous Lidar for the U.S. Air Force Research Lab satellite XSS-11, which successfully tracked other satellites in orbit to assess the possibility of satellite docking and servicing.