



On-Orbit Spacecraft Inspection

Neptec's Laser Camera System (LCS) is used to make high-precision 3D measurements of spacecraft surfaces at ranges of one to three metres.

Neptec's LCS is a high-precision autosynchronous triangulation 3D laser scanner designed to perform on-orbit inspection of spacecraft.

The LCS was part of NASA's standard shuttle manifest and was a mandatory system on every shuttle mission. Its role was to scan the shuttle's thermal protection system (TPS) to assess areas of interest, perform high precision damage inspection, and facilitate clearance of the shuttle for landing.

The LCS was the critical system for repair decisions on both STS-118 and STS-122.



STS-118 sustained damage that had the capacity to pose a threat to the crew and shuttle upon re-entry. The LCS was used to gather 3D data, enabling NASA to duplicate the damage and conduct tests in a simulated environment. This effort concluded that the shuttle was safe for re-entry.

Damage was incurred on STS-122 when part of the thermal blanket lifted. The LCS was used to inspect this area, allowing NASA to determine that the damage did not pose a threat to the shuttle upon re-entry.



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Both pictures were taken by NASA.