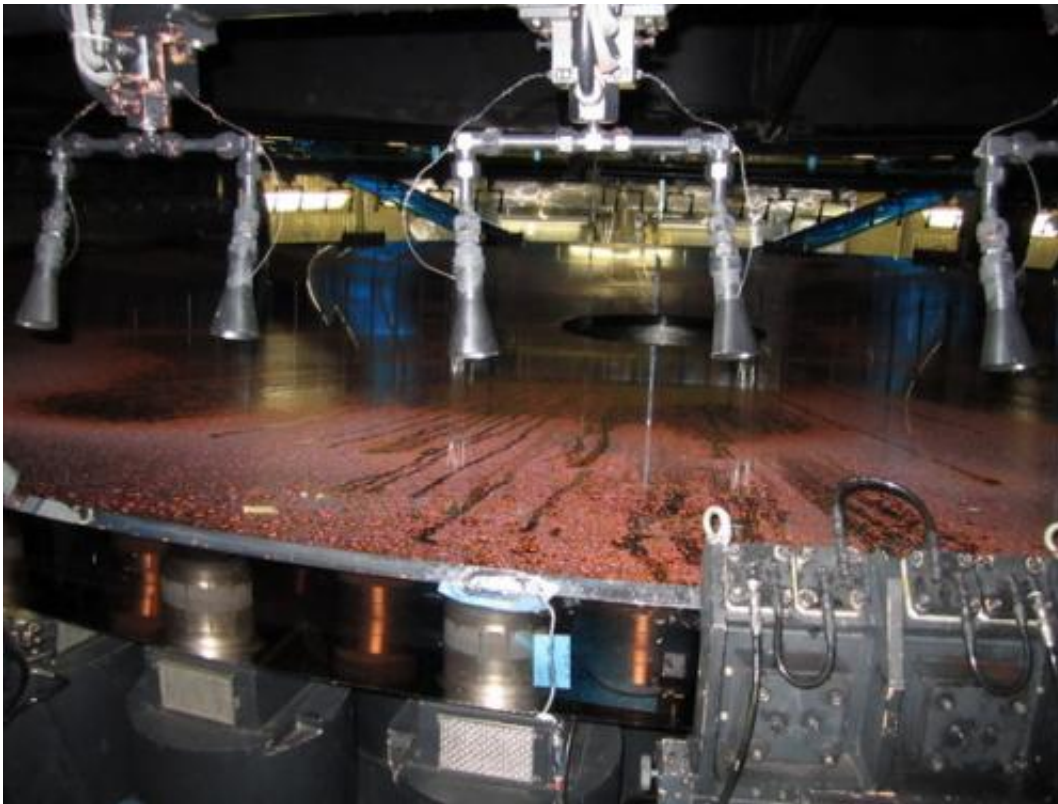


Subaru 8-meter telescope damaged by leaking coolant

July 6 2011, By Nancy Atkinson



Orange-colored coolant covers the mirror surface of the Subaru Telescope.
Credit: National Astronomical Observatory of Japan

A "serious hardware incident" has shut down the Subaru Telescope indefinitely. A leak allowed orange-colored coolant to spill over the primary mirror and into the main camera, as well as into other instruments and the structure of the telescope. The damage is still be

assessed. During the clean-up and recovery of equipment, nighttime observations have been suspended, as well as daytime summit tours of the telescope.

An announcement posted on the [Subaru telescope](#) website said that operators detected an error signal while shutting down the observation system at the end of the night shift during the early morning of Saturday, July 2, 2011.

When engineers arrived to assess the situation, they found extensive leakage of coolant (ethylene glycol) over most of the entire [telescope](#). The leak originated from the “top unit” of the telescope, which is located at the center of the top ring and includes the Subaru Prime Focus Camera (Suprime-Cam) and auxiliary optics.

Although they promptly shut off the supply of coolant, a significant amount of leakage had already occurred, from the top unit itself down to the tertiary mirror, the [primary mirror](#) and some of its actuators, the Faint Object Camera and Spectrograph (FOCAS, a Cassegrain instrument) and its auxiliary optics, and the telescope floor.

The engineers attempted to clean up and remove as much coolant as possible. However, such areas as optics, control circuits, and the inside of Suprime-Cam and FOCAS were inaccessible during the initial clean-up.

The coolant consists of a mixture of water and [ethylene glycol](#), a liquid commonly used in a vehicle’s radiator for cooling. The [coolant](#) is not corrosive and does not damage the primary mirror, which has a foundation of glass.

The Subaru Telescope is located on the Mauna Kea on the Big Island of Hawaii, with offices in the town of Hilo. The Subaru website said they

will post updates on the status of the telescope and its recovery.

Source: [Universe Today](#)

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