

Kepler Mission Update: First exoplanet discovery, focal plane anomaly

January 20 2010



Artist concept of Kepler in space. Image credit: NASA/JPL

(PhysOrg.com) -- Kepler is continuing to collect science data. The Kepler Science Team announced Kepler's first exoplanet discoveries at the 215th American Astronomical Society Meeting in Washington DC on Jan. 4, 2010.

The Kepler announcements garnered a great deal of interest at the meeting, and received widespread news media coverage. The five new exoplanets were discovered from Kepler's first 43 days of data. It has been more than 10 months since Kepler's launch, and the science team continues to analyze the treasure trove of data that Kepler is collecting. The project is preparing for another monthly download of science data, scheduled for Jan. 19-20, 2010.

On Jan. 12, 2010, the Kepler project team detected an [anomaly](#) with a

portion of the Kepler focal plane. One of the modules, MOD-3, that contains two of Kepler's 42 Charge-Coupled-Devices (CCDs), transmitted anomalous data. There are 21 modules that comprise Kepler's electronic light sensors, or "eyes." The possible loss of the module represents a loss of five percent of the Kepler Field-of-View.

An Anomaly Response Team continues to investigate the anomaly. Initial indications are that the anomaly is isolated and not expected to affect other modules. The Kepler project team is working on plans to correct the anomaly or to minimize the impact of the possible loss of the module and the reduction in Field-of-View.

Provisions were included in Kepler's design to accommodate degradation in Kepler's performance as the mission progresses. Additional telemetry is being gathered from the spacecraft to facilitate analysis of the anomaly. The module will remain offline pending further troubleshooting and analysis. In the event the module functionality cannot be restored, Kepler still is expected to fully meet its mission goals for detecting Earth-size planets in the [habitable zone](#) of other stars.

Provided by JPL/NASA

Citation: Kepler Mission Update: First exoplanet discovery, focal plane anomaly (2010, January 20) retrieved 1 June 2023 from <https://phys.org/news/2010-01-kepler-mission-exoplanet-discovery-focal.html>

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