

The Mikulski Archive for Space Telescopes makes all Kepler data publicly available

November 2 2018, by Christine Pulliam



This artist's concept depicts a planetary system. Credit: NASA/JPL-Caltech

The Kepler spacecraft launched in 2009 with the goal of finding exoplanets orbiting distant stars. In the years since, astronomers have used Kepler observations to discover 2,818 exoplanets as well as another 2,679 exoplanet candidates which need further confirmation. On October 30, 2018 NASA announced that Kepler had run out of fuel and

would be decommissioned. While spacecraft operations have ceased, its data will continue to be publicly available through the Mikulski Archive for Space Telescopes (MAST) at the Space Telescope Science Institute. These data will enable new scientific discoveries for years to come.

NASA's Kepler spacecraft has completed its primary planet-hunting and follow-up K2 missions and will be decommissioned. However, all of Kepler's data has been and will continue to be publicly available at the Space Telescope Science Institute (STScI) through the Mikulski Archive for Space Telescopes (MAST) where it will continue to improve our understanding of the universe.

The Kepler spacecraft was launched in 2009 with the goal of looking for a small decrease in the brightness of stars caused by orbiting exoplanets crossing in front of them. Using this transit technique, astronomers have used Kepler observations to discover 2,818 exoplanets as well as another 2,679 [exoplanet](#) candidates which need further confirmation. Kepler focused on stars near the constellation of Cygnus and revealed, among other discoveries, that small planets are common in our galaxy.

After its four-year primary [mission](#), the spacecraft was repurposed to observe the stars near the zodiacal constellations. This second phase of Kepler's science program was called the K2 mission. During K2, the Kepler spacecraft continued gathering the data necessary to hunt for exoplanets, and has allowed researchers to study other astrophysical questions. The Kepler [spacecraft](#) has observed supernovas, stellar clusters such as the Pleiades, and many of the objects in our own solar system including Neptune, Uranus, and Pluto.

While the data collection phase for Kepler has ended, STScI's Mikulski Archive for Space Telescopes will continue to make all data from the Kepler observatory available in perpetuity. Recently, the MAST archive team won a NASA Group award for their work in hosting the Kepler

data sets.

These data will enable new scientific discoveries for years to come as scientists fully examine the data and augment it with additional observations.

"The search for exoplanets using the Kepler data is still underway. Many are still hiding in the data, ready to be discovered," said Susan Mullally, a scientist working on the Kepler mission at STScI.

All four years of the Kepler primary mission data as well as the four years of the K2 mission are publicly available for download at MAST. In addition to the mission data, the archive hosts community-provided data products that provide improved data analysis necessary for certain astrophysical studies or improved measurements of the stars observed by Kepler. All the data is accessible through the MAST data portal as well as its exoplanet focused interface.

Looking forward, MAST is the home to the data from NASA's next great exoplanet hunting observatory, the Transiting Exoplanet Survey Satellite (TESS). TESS has just begun its survey of almost the entire night sky, looking for exoplanets orbiting some of the brightest and closest stars. As an astronomical passing of the baton, in the last month of Kepler's mission, both TESS and Kepler simultaneously observed over a hundred of the same stars.

More information: Mikulski Archive for Space Telescopes:
mast.stsci.edu/portal/Mashup/Clients/Mast/Portal.html

NASA's Kepler Mission:
www.nasa.gov/mission_pages/kepler/main/index.html

MAST data portal: mast.stsci.edu

Provided by ESA/Hubble Information Centre

Citation: The Mikulski Archive for Space Telescopes makes all Kepler data publicly available (2018, November 2) retrieved 19 April 2024 from <https://phys.org/news/2018-11-mikulski-archive-space-telescopes-kepler.html>

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