

STATUS OF THE TESS SCIENCE PROCESSING OPERATIONS CENTER

Peports

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they are accessible by the community at large.

The summary above was produced for **Kepler-11b** with the final version of the

SOC codebase, SOC-9.3.

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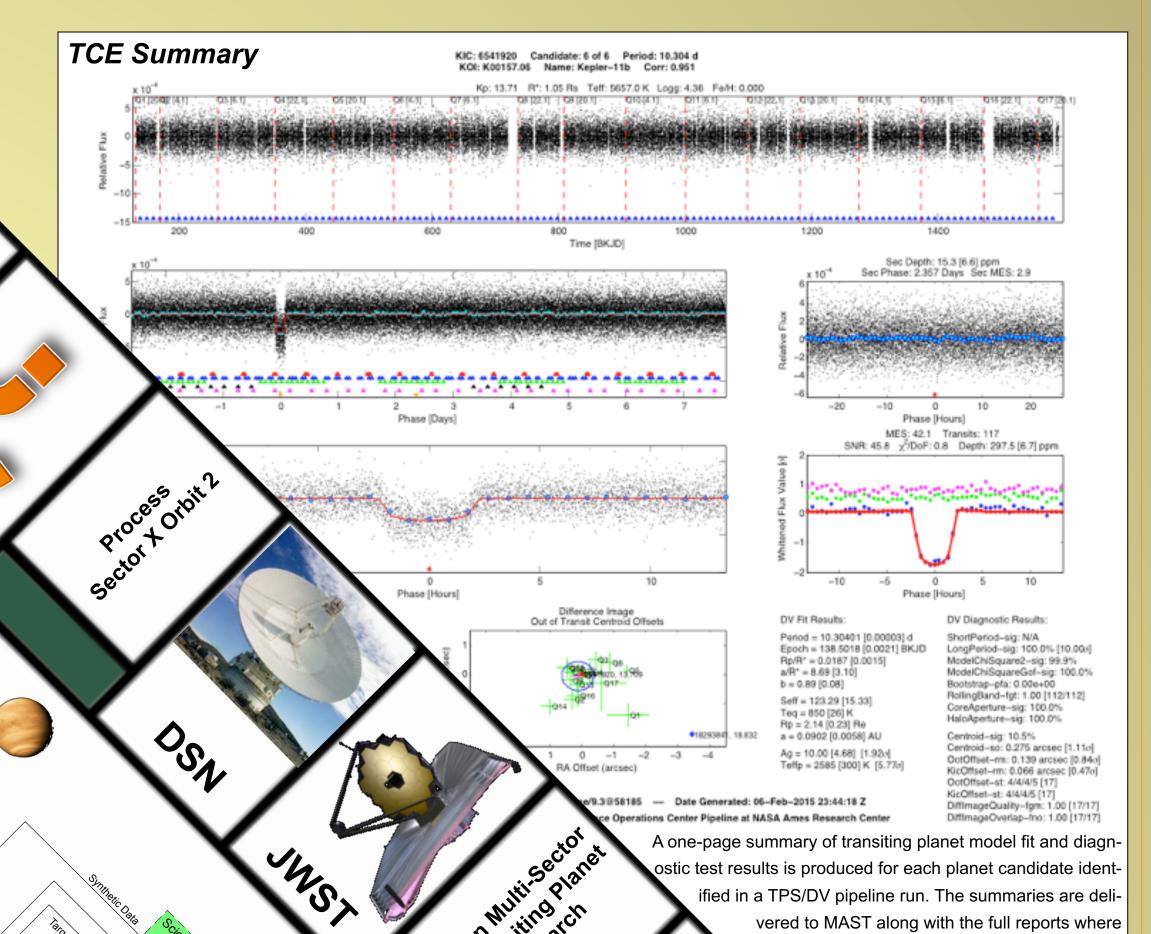
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Abstract

The Transiting Exoplanet Survey Satellite (TESS) science pipeline is being developed by the Science Processing Operations Center (SPOC) at NASA Ames Research Center based on the highly successful Kepler Mission science pipeline. Like the Kepler pipeline, the TESS science pipeline will provide calibrated pixels, simple and systematic error-corrected aperture photometry, and centroid locations for all 200,000+ target stars, observed over the 2-year mission, along with associated uncertainties. The pixel and light curve products are modeled on the Kepler archive products and will be archived to the Mikulski Archive for Space Telescopes (MAST). In addition to the nominal science data, the 30-minute Full Frame Images (FFIs) simultaneously collected by TESS will also be calibrated by the SPOC and archived at MAST.

The TESS pipeline will search through all light curves for evidence of periodic Transit signals that occur when a planet crosses the disk of its host star. The Data Validation (DV) pipeline component will generate a suite of diagnostic metrics for each transit-like signature discovered, and extract planetary parameters by fitting a limb-darkened transit model to each potential planetary signature. The results of the transit search will be similar in content to the Kepler transit search products (tabulated numerical results, time series products, and pdf reports) all of which will be archived to MAST.

TESS was selected by NASA for launch in 2017 as an Astrophysics Explorer mission.



Peports

