

Current Results from Kepler & Follow-on Observations

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Abstract

All 17 quarters of Kepler data have been now calibrated and deposited in archives. Uniform reprocessing of the entire data set with current software is expected to be completed this Fall. An important aspect of the Mission is the revision of the stellar properties of the target stars needed to get more accurate values of their planets. The Star Working Group has published its first catalog with revised values for R^* and T_{eff} for the 196,468 stars observed by Kepler [1]. Their results show that many stars which are unclassified in the Kepler Input Catalog (KIC) are actually giants, while many others stars (in particular M dwarfs) are smaller than that listed. A catalog has been published that contains the results from data acquired during quarters Q1-Q8 and lists a total of 2738 planetary candidates [3]. Revised values of exoplanet and stellar results include the effects of increases in stellar temperature as per the [4] study and stellar property adjustments for consistency with Yale-Yonsei stellar isochrones. Nearly 7300 KOI are currently listed in the NEXSci archive with approximately 3538 classified as planetary candidates or verified as planets. Based on the latest edition the Kepler Eclipsing Binary Catalog [5] an additional 2611 KOI are considered to be eclipsing binaries while the rest are a combination of background eclipsing binaries and background transiting planets. A catalog covering Q1-Q12 data is being developed and is expected to be published this summer (Rowe et al. in progress). It will make substantial corrections to the values of exoplanet characteristics based on revised stellar properties from the Huber et al, 2014 catalog of stellar properties and will use the Dartmouth isochrones for cool stars instead of the Yonsei-Yale values. New discoveries and Mission developments will also be presented.

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References

- [1] Huber, D., et al.: Fundamental properties of Kepler planet-candidate host stars using Asteroseismology, *ApJS* 211:2, 2014.
- [2] Brown, T., et al.: Kepler input catalog: photometric calibration and stellar classification, *AJ* 142:112, 2011.
- [3] Burke, C., et al.: Planetary candidates observed by Kepler IV: planet sample from Q1–Q8 (22 months), *ApJS* 210:19, 2014.
- [4] Pinsonneault, M., et al.: A revised effective temperature scale for the Kepler input catalog, *ApJS* 199:30, 2012.
- [5] Slawson, R., et al., Kepler eclipsing binary stars. II. 2165 eclipsing binaries in the second data release, *AJ* 142:160, 2011.