

2017 Exoplanet Archive News

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For previous years' news, see the 2016, 2015, 2014, 2013, and 2011-12 archives.

For a compilation of weekly tips that have appeared in past news items, see the Tip Archive.

To view only the most recently added planets and updated parameters (default and non-default), see this pre-filtered and pre-sorted interactive table.

June 15, 2017

The Kepler project has released a set of simulated and occurrence rate data products that are now part of the archive. These products support robust planet occurrence rate calculations by determining the Kepler pipeline's completeness and reliability. For more information, see the Kepler Simulated Data page, which contains links to all related products and documentation, and the Pipeline Completeness Contours items on the Kepler Completeness and Reliability page.

We've also added four planets to the archive: HD 27894 c & d, BD+03 2562 b, and HD 177565 b. See their Confirmed Planet Overview pages or the Confirmed Planets interactive table for the data.

June 8, 2017

This week we've added HD 3167 d and HD 20794 e, both of which are new planets in existing systems. See the Confirmed Planets interactive table or their individual Confirmed Planet Overview pages.

June 5, 2017

The hottest hot Jupiter that was announced today at the AAS summer meeting is in the archive. See the data for KELT-9 b on its Confirmed Planet Overview page, as well as the star's data on the Planet Host Overview page.

Also, read the Gaudi et al. 2017 discovery paper in Nature and the Ohio State University press release.

June 1, 2017

Two new cool dwarf planets, Kepler-1650 b and Kepler-1651 b, have been added to the archive and can be accessed from their Confirmed Planet Overview pages as well as the Confirmed Planets interactive table. We've also removed HD 131399 A b, which was detected via imaging and has been shown to be a false positive by Nielsen et al. 2017.

May 18, 2017

**Two New Planets:** There are two new confirmed planets in the archive this week, K2-110 b and MOA 2016-BLG-227L b. We also changed the default names for the following six K2 planets that were previously known by their EPIC IDs: K2-97 b, K2-98 b, K2-100 b, K2-101 b, K2-102 b, and K2-104 b. The new default names match their references in the literature.

**KOI DR 25 Data:** The Markov Chain Monte Carlo (MCMC) posterior chains and light curves for Kepler DR 25 KOIs are now available. To download, see the links on the Kepler Objects of Interest page. A description of the files is also available in the documentation.

May 10, 2017

New this week:

**Three More Planets:** We welcome KELT-11 b, K2-111 b, and OGLE-2016-BLG-1195L b to the archive! See the Confirmed Planets interactive table or their individual Confirmed Planet Overview pages.

**New KOI Delivery:** Transit fits have been updated for 75 DR 25 Kepler Objects of Interest (KOI). Stellar metallicities and uncertainties related to stellar surface gravity and stellar mass have been corrected to agree with the Q1-17 DR 25 Kepler Stellar data. Lastly, minor flags, which indicate why KOIs are FALSE POSITIVES, have been added to the comment column. View the data in the KOI Cumulative interactive table, and read the documentation.

April 27, 2017

We've added eight newly confirmed planets to the archive, including LHS 1140 b, the temperate rocky super Earth transiting a nearby M dwarf reported in Dittmann et al. 2017. More information is in the press release.

The other new planets this week are: Kepler-1649 b, KELT-12 b, KELT-18 b, HIP 67537 b, Qatar-3 b, Qatar-4 b, and Qatar-5 b. See their Confirmed Planet Overview pages or the Confirmed Planets interactive table for the data.

We've also upgraded our web site to https to provide additional security. This means all archive web pages and API queries will begin with https instead of http. For example, the new home page address is now:

https://exoplanetarchive.ipac.caltech.edu/

This change should not be noticeable to users. Visitors who go to any http page within our site will be automatically redirected to the secure (https) version. However, if you have any issues with accessing an archive web page or the API, please contact our Help Desk.

April 20, 2017

We've added K2 stellar parameters for campaigns 10, 11, and 12 as described in Huber et al. 2016. Access them from the K2 Table Search by specifying the campaign and any of the stellar parameters.

We've also added 19 missing KOIs to the DR 25 Kepler Astrophysical Positional Probabilities (APP) table. See the DR 25 Reliability table on the Kepler Completeness and Reliability page for links to a pre-filtered table and documentation.

April 13, 2017

**We've added three planets to the Confirmed Planets table:** HAT-P-67 b, Kepler-19 d, and Kepler-150 f. See the Confirmed Planets interactive table or the individual Confirmed Planet Overview pages.

Also, K2 Campaign 13 targets are now available through our K2 Targets search interface, and from our API service by specifying &where=k2\_campaign=13 in your query.

April 6, 2017

New Kepler DR 25 data products added this week include Astrophysical Positional Probabilities, TCE bootstrap statistics, and a new default parameter for flagging rogue TCEs:

- Astrophysical Positional Probabilities:** These products examine the possibility of transit signals arising from an astrophysical source other than the target star. See the new DR 25 Reliability table on the Kepler Completeness and Reliability page for links to a pre-filtered table and documentation.
- DR 25 TCE bootstrap statistics:** These data describe the probabilities of false alarms to further refine detection levels, and have been added to the TCE interactive table.
- The new default column in the TCE interactive table,** tce\_rogue\_flag, flags TCEs detected in a uniform manner. A full description is provided on the data column definitions page. For more information about default parameters, see our FAQ.

**Note:** You may also need to update any saved preference sets to include the new column.

March 30, 2017

There are 11 additional planets in the Confirmed Planets table, bringing the total number to **3,472**. The planets are: Kepler-20 g, NGC 2682 Sand 978 b, GJ 3138 b, c, & d, GJ 3323 b & c, GJ 273 b & c, and GJ 3293 d & e.

The Confirmed Planet interactive table has all confirmed planet data in the archive, while this pre-filtered and pre-sorted table contains only the new planets and updated parameters for this week.

March 23, 2017

This week we have some important data updates:

- Kepler DR 25 KOI Catalog:** The initial Q1-Q17 DR 25 KOI catalog produced by the Kepler Project is now available in the archive. The table status is currently **Open**, so dispositions are not finalized and may change. The new KOI hosts have KOI numbers between 7621 and 8297. The Robovetter score indicates confidence in the current disposition; this is listed as the ko\_i\_score parameter in the KOI interactive table and application programming interface (API). For an explanation of how individual dispositions are generated, see the Q1-Q17 DR 25 KOI Companion document. For a summary of all KOI catalogs by quarter (with links to their respective interactive tables and documentation), see the Purpose of KOI Activity Tables document.
- New Kepler Stellar Occurrence Rate Columns:** We've added DR 25 completeness data to the Kepler Stellar table to help with star selections for calculating occurrence rates. These can be accessed in the Kepler Stellar interactive table and by our application program interface (API). We've also updated the Kepler Completeness and Reliability page with a DR 25-specific section.

If you would like to create or update an API query to retrieve the data, the new columns are:

- RA†: ra
- Dec†: dec
- Kepler-band†: kepmag
- Stellar Surface Gravity†:logg
- Stellar Metallicity†:feh
- Stellar Effective Temperature†:teff
- Date of Last Update†:st\_vet\_date
- Quarterly Data Exists†:st\_quarters
- Number of Associated Confirmed Planets†:nconfp
- Number of KOIs†:nkoi
- Number of TCEs†:ntce
- Duty Cycle: dutycycle
- Duty Cycle Post Planet Removal: dutycycle\_post
- Data Span: dataspan
- Data Span Post Planet Removal: dataspan\_post
- Multiple Event Statistic (MES) Threshold: mesthres[hour]
- Root-Mean-Square (RMS) Combined Differential Photometric Precision (CDPP): rmscdpp[hour]
- rmsCDPP Slope for Long Transit Durations: cdpps\_lplong
- rmsCDPP Slope for Short Transit Durations: cdpps\_lpsht
- Timeout Indicators: timeout
- Timeout Indicator Summary: timeoutsumry
- Limb Darkening Coefficient: limbdark\_coeff[1,2,3,4]

In addition, the following columns have been deprecated:

- General Comment: st\_comment
- Kepler-band Contamination: contamin
- Stellar Surface Rotation: srot
- Photometric Range: phot\_range
- Limb Darkening Model Name: limbdark\_mod

Note that **no** data were deleted when the columns were deprecated (i.e., they were never populated).

More detailed definitions of each column are provided in the data column definitions document. In the above list, new default columns are flagged with a †, so existing API queries to the Kepler Stellar table (keplerstellar) may need to be updated. For more information about default columns, see our Frequently Asked Questions.

Also, you may also need to update any saved preference sets to include these new columns.

March 16, 2017

Three new planets (HATS-22 b, HATS-23 b and HATS-24 b) have been added to the archive, bringing the total number of confirmed planets to **3,461**. See the Confirmed Planets interactive table or the individual Planet Overview pages.

HD 219134, our closest neighboring star with multiple transiting planets, has been updated with new parameters for 4 of its 6 planets. The second planet (c) was recently confirmed as transiting so it will now appear in Transit and Ephemeris Service search results.

March 9, 2017

You've asked and we've listened: all of today's updates are in response to user requests. Thank you for helping us improve the archive!

- Pre-generated Plots Upgrade!** We've added four new pre-generated plots: Density vs. Mass, Density vs. Radius, Radius vs. Period, and Cumulative Detections of New Planets by Discovery Year. We've also added color blind-accessible versions for every pre-generated plot that can be accessed by a link directly under each plot.

These plots provide the community fast access to presentation material that describe the current state of the exoplanets field in terms of their number and our understanding of their orbital and physical characteristics. To see all of the plots, go to the Pre-generated Plots page. To suggest a new plot or to provide other feedback, please contact us.

- New Confirmed Planet Parameter: Angular Separation.** The Confirmed Planet interactive table now includes Angular Separation (p\_l\_angsep) as a planet parameter. It is not a default; to add it to the table:
  - Click **Select Columns**.
  - Expand the **Planet Columns** menu and scroll to **Calculated Angular Separation [mas]**.
  - Check the box for the parameter. Expand the submenu to add the uncertainties as well.
  - Click **Update Selection**, which refreshes the table.
  - Click the **x** in the upper-right corner of the chooser pop-up window to close it.
  - Scroll the table to the far-right to view the new column(s).

Note that you can drag-and-drop columns to re-arrange them, and the User Preferences feature will save your table configuration for future visits. See the Interactive Table User Guide for details.

- Documentation index now more bookmark-able!** The Documentation index, which is both a catalog and search tool for every piece of documentation in the NASA Exoplanet Archive, has been enhanced so users may now see, save and share the URL of the document in the display pane. To access the index, click the **Documentation** button at the bottom of the home page, or click on **Support** and select **Documentation Index** from the web site's drop-down menu.

March 3, 2017

Five planets added this week: HD 17674 b, HD 29021 b, HD 42012 b, and HD 106315 b & c. See the Confirmed Planets interactive table or the individual Planet Overview pages.

February 22, 2017

We've added data for the TRAPPIST-1 system confirmed to have seven Earth-size planets, some of which are in the habitable zone. The archive now contains parameters for: TRAPPIST-1 b, c, d, e, f, g, and h. Click on the names to view their respective Planet Overview pages, or go to the Confirmed Planets table. To view only the most recently added planets and updated parameters (default and non-default), see this pre-filtered and pre-sorted interactive table.

You may also read the Gillon et al. 2017 discovery paper in Nature and the NASA press release.

February 9, 2017

This week there are two new planets, K2-108 b and KELT-16 b, as well as various updated parameters. See the Planet Overview pages or the Confirmed Planets interactive table for the data.

February 2, 2017

Newly confirmed planets K2-107 b, WASP-53 b & c, WASP-81 b, and TAP 26 b have been added this week, all of which are accessible from the Confirmed Planets table. You may also access their Overview pages using the Explore the Archive search on the home page.

January 26, 2017

- We're pleased to announce a NEW Microlensing table!** This interactive table focuses on microlensing-specific observational and model parameters. Additional data and objects will be added over the next few months until all confirmed microlensing planets are available. The columns available in this table are listed and defined in the documentation. To compare and review microlensing planet against other confirmed planets, please use the Confirmed Planets interactive table.
- Two new planets added:** We've also added K2-106 b and c to the archive. Click on the names to view their respective Overview pages, or go to the Confirmed Planets table.

January 12, 2017

Happy new year! We are ushering in 2017 with the following:

- One New Planet:** We've added K2-105 b to the Confirmed Planets table. (Fun fact: This same time last year we added K2-25 b, so there have been 80 K2 planets confirmed in a year's time.)
- More Emission Spectroscopy:** We have completed the backfill of the published emission spectroscopy literature into our database! Check out the interactive table and let us know if there are missing values by submitting a Helpdesk ticket.
- K2 Campaign 12 Targets:** These are now available through our K2 Targets search interface, or by using our API service by specifying &where=k2\_campaign=12 in your query.
- Updated Kepler Document:** An erratum has been published for the DR24 Window Functions; users of these functions should consult the revised documentation (KSCI-19085-002.pdf; see Section 4).

