**Exoplanet Archive Information**

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| **Database Column Name** | **Table Label** | **Description** |
| koi\_disposition† | Exoplanet Archive Disposition | The category of this KOI from the Exoplanet Archive. Current values are CANDIDATE, FALSE POSITIVE, NOT DISPOSITIONED or CONFIRMED. All KOIs marked as CONFIRMED are also listed in the Exoplanet Archive Confirmed Planet table. Designations of CANDIDATE, FALSE POSITIVE, and NOT DISPOSITIONED are taken from the [Disposition Using Kepler Data](https://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#pdisposition). |

## Project Disposition Columns

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| **Database Column Name** | **Table Label** | **Description** | **Uncertainties Column (positive +) (negative -)** | **Displayed String Name** |
| koi\_pdisposition† | Disposition Using Kepler Data | The pipeline flag that designates the most probable physical explanation of the KOI. Typical values are FALSE POSITIVE, NOT DISPOSITIONED, and CANDIDATE. The value of this flag may change over time as the evaluation of KOIs proceeds to deeper levels of analysis using Kepler time-series pixel and light curve data, or follow-up observations. A not dispositioned value corresponds to objects for which the disposition tests have not yet been completed. A false positive has failed at least one of the tests described in [Batalha et al. (2012)](https://ui.adsabs.harvard.edu/abs/2013ApJS..204...24B/abstract" \t "_blank). A planetary candidate has passed all prior tests conducted to identify false positives, although this does not a priori mean that all possible tests have been conducted. A future test may confirm this KOI as a false positive. False positives can occur when: 1) the KOI is in reality an eclipsing binary star, 2) the Kepler light curve is contaminated by a background eclipsing binary, 3) stellar variability is confused for coherent planetary transits, or 4) instrumental artifacts are confused for coherent planetary transits. |  |  |
| koi\_fpflag\_nt† | Not Transit-Like Flag | A KOI whose light curve is not consistent with that of a transiting planet. This includes, but is not limited to, instrumental artifacts, non-eclipsing variable stars, and spurious (very low SNR) detections. |  |  |
| koi\_fpflag\_ss† | Stellar Eclipse Flag | A KOI that is observed to have a significant secondary event, transit shape, or out-of-eclipse variability, which indicates that the transit-like event is most likely caused by an eclipsing binary. However, self-luminous, hot Jupiters with a visible secondary eclipse will also have this flag set, but with a disposition of PC. |  |  |
| koi\_fpflag\_co† | Centroid Offset Flag | The source of the signal is from a nearby star, as inferred by measuring the centroid location of the image both in and out of transit, or by the strength of the transit signal in the target's outer (halo) pixels as compared to the transit signal from the pixels in the optimal (or core) aperture. |  |  |
| koi\_fpflag\_ec† | Ephemeris Match Indicates Contamination Flag | The KOI shares the same period and epoch as another object and is judged to be the result of flux contamination in the aperture or electronic crosstalk. |  |  |

## Transit Properties

Transit parameters delivered by the Kepler Project are typically best-fit parameters produced by a [Mandel-Agol (2002)](https://ui.adsabs.harvard.edu/abs/2002ApJ...580L.171M) fit to a multi-quarter Kepler light curve, assuming a linear orbital ephemeris. Some of the parameters listed below are fit directly, other are derived from the best-fit parameters. Limb-darkening coefficients are fixed and pre-calculated from host star properties. Orbital Period, Transit Epoch, Planet-Star Radius Ratio, Planet-Star Distance over Star Radius and Impact Parameter are the free parameters in the fit. Matrix covariances are adopted as errors to the fit parameters; they therefore ignore the effects of correlation between the fit parameters and are likely to be underestimates.

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| **Database Column Name** | **Table Label** | **Description** | **Uncertainties Column (positive +) (negative -)** | **Displayed String Name** |
| koi\_period† | Orbital Period (days) | The interval between consecutive planetary transits. | koi\_period\_err1, koi\_period\_err2 | koi\_period\_str |
| koi\_time0bk† | Transit Epoch (BJD - 2,454,833.0) | The time corresponding to the center of the first detected transit in Barycentric Julian Day (BJD) minus a constant offset of 2,454,833.0 days. The offset corresponds to 12:00 on Jan 1, 2009 UTC. | koi\_time0bk\_err1, koi\_time0bk\_err2 | koi\_time0bk\_str |
| koi\_impact† | Impact Parameter | The sky-projected distance between the center of the stellar disc and the center of the planet disc at conjunction, normalized by the stellar radius. | koi\_impact\_err1, koi\_impact\_err2 | koi\_impact\_str |
| koi\_duration† | Transit Duration (hours) | The duration of the observed transits. Duration is measured from first contact between the planet and star until last contact. Contact times are typically computed from a best-fit model produced by a [Mandel-Agol (2002)](https://ui.adsabs.harvard.edu/abs/2002ApJ...580L.171M) model fit to a multi-quarter Kepler light curve, assuming a linear orbital ephemeris. | koi\_duration\_err1, koi\_duration\_err2 | koi\_duration\_str |
| koi\_depth† | Transit Depth (parts per million) | The fraction of stellar flux lost at the minimum of the planetary transit. Transit depths are typically computed from a best-fit model produced by a [Mandel-Agol (2002)](https://ui.adsabs.harvard.edu/abs/2002ApJ...580L.171M) model fit to a multi-quarter Kepler light curve, assuming a linear orbital ephemeris. | koi\_depth\_err1, koi\_depth\_err2 | koi\_depth\_str |
| koi\_prad† | Planetary Radius (Earth radii) | The radius of the planet. Planetary radius is the product of the planet star radius ratio and the stellar radius. | koi\_prad\_err1, koi\_prad\_err2 | koi\_prad\_str |
| koi\_teq† | Equilibrium Temperature (Kelvin) | Approximation for the temperature of the planet. The calculation of equilibrium temperature assumes a) thermodynamic equilibrium between the incident stellar flux and the radiated heat from the planet, b) a Bond albedo (the fraction of total power incident upon the planet scattered back into space) of 0.3, c) the planet and star are blackbodies, and d) the heat is evenly distributed between the day and night sides of the planet. | ~~koi\_teq\_err1, koi\_teq\_err2~~ | koi\_teq\_str |
| koi\_insol† | Insolation Flux [Earth flux] | Insolation flux is another way to give the equilibrium temperature. It depends on the stellar parameters (specifically the stellar radius and temperature), and on the semi-major axis of the planet. It's given in units relative to those measured for the Earth from the Sun. | 'koi\_insol\_err1''koi\_insol\_err2' |  |

## Threshold-Crossing Event (TCE) Information

The [Transiting Planet Search (TPS) module](http://archive.stsci.edu/kepler/manuals/KSCI-19081-001_Data_Processing_Handbook.pdf) of the Kepler data analysis pipeline performs a detection test for planet transits in the multi-quarter, gap-filled flux time series. The TPS module detrends each quarterly PDC light curve to remove edge effects around data gaps and then combines the data segments together, filling gaps with interpolated data so as to condition the flux time series for a matched filter. The module applies an adaptive, wavelet-based matched filter ([Jenkins 2002](https://ui.adsabs.harvard.edu/abs/2002ApJ...575..493J/abstract), [Jenkins et al. 2010](https://ui.adsabs.harvard.edu/abs/2010ApJ...713L..87J/abstract) and [Tenenbaum et al. (2012)](https://ui.adsabs.harvard.edu/abs/2012ApJS..199...24T/abstract)) to perform a joint characterization of observation noise and detection of transit-like features in the light curve.

The TPS module estimates the Power Spectral Density of the flux time series as a function in time. This provides coefficients for a whitening filter to accommodate non-stationary, non-white noise and yields Single Event Statistic (SES) time series components. These can be interpreted as measurements of the statistical significance of the presence of a transit of trial duration at each point in the time series.

Single Event Statistics are folded at each trial orbital period and the maximum Multiple Event Statistic (MES) is obtained over all trial periods and phases. The MES estimates the signal to noise ratio of the putative transit-like sequence against the measurement noise. The MES threshold for defining the sample of [Threshold Crossing Events (TCEs)](https://ui.adsabs.harvard.edu/abs/2012ApJS..199...24T/abstract) is provided within the Release Notes. For reference, a lower MES threshold of 7.1σ limits the number of false positives in the TCE sample due to statistical random noise to less than 1 over the primary mission ([Jenkins, Caldwell and Borucki 2002](https://ui.adsabs.harvard.edu/abs/2002ApJ...564..495J/abstract)).

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| **tabase Column Name** | **Table Label** | **Description** |
| koi\_model\_snr† | Transit Signal-to-Noise | Transit depth normalized by the mean uncertainty in the flux during the transits. |
| koi\_tce\_plnt\_num† | TCE Planet Number | TCE Planet Number federated to the KOI. |

## Stellar Parameters

Stellar effective temperature, surface gravity, metallicity, radius, mass, and age should comprise a consistent set. Associated error estimates are 1-σ uncertainties.

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| **Database Column Name** | **Table Label** | **Description** | **Uncertainties Column (positive +) (negative -)** | **Displayed String Name** |
| koi\_steff† | Stellar Effective Temperature (Kelvin) | The photospheric temperature of the star. | koi\_steff\_err1, koi\_steff\_err2 | koi\_steff\_str |
| koi\_slogg† | Stellar Surface Gravity (log10(cm s-2) | The base-10 logarithm of the acceleration due to gravity at the surface of the star. | koi\_slogg\_err1, koi\_slogg\_err2 | koi\_slogg\_str |
| koi\_srad† | Stellar Radius (solar radii) | The photospheric radius of the star | koi\_srad\_err1, koi\_srad\_err2 | koi\_srad\_str |

KIC Parameters

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| **Database Column Name** | **Table Label** | **Description** | **Uncertainties Column (positive +) (negative -)** | **Displayed String Name** |
| ra† | RA (deg) | KIC Right Ascension | ra\_err |  |
| dec† | Dec (deg) | KIC Declination | dec\_err |  |
| koi\_kepmag† | Kepler-band (mag) | Kepler-band (mag) | ~~koi\_kepmag\_err~~ | koi\_kepmag\_str |