

Description of *K2* Campaign 9 Parallax Animations

The pdfs and gifs in this directory are the results of simulations to help visualize and make intuitive the parallax effect that will be measured during the microlensing survey of Campaign 9 of *Kepler's* extended *K2* mission (*K2C9*). This document explains how to interpret and utilize the orbital and light curve figures and animations presented here.

To learn more about the *K2C9* endeavor, please read the white paper, which can be found here:

<http://adsabs.harvard.edu/abs/2015arXiv151209142H>

To request permission to use any of these parallax visualizations, point out an error, or make a general comment, please contact Calen B. Henderson, the first author of the above paper and the creator of the pdfs and gifs, via:

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There are five animations, each of which shows the evolution of certain parameters of *K2C9* as a function of time, with a step size of one day per panel. These are available as single-panel gifs in the `gifs/1_panel/` directory. Two pairings of gifs are located in the `gifs/2_panels/` directory. Finally, one four-panel gif combines all but one of the animations and can be found in the `gifs/4_panels/` directory. Similarly, a pdf of every panel (again, corresponding to a single day of the campaign) for each animation is found in the analogous `pdfs/` directory. The Solar System bodies in all cases are the Sun (yellow), the Earth (purple), *Kepler* (blue), and *Spitzer* (red), which will observe in tandem with *Kepler* during the last ~ 2 weeks of C9.

The details of the parallax animations are as follows:

1. `ecliptic_x_y`: Orbital motion as seen from above the Solar System.
2. `ecliptic_x_z_superstamp_tilt`: Orbital motion as viewed from the *K2C9* superstamp looking toward the Sun.
3. `galactic_orientation`: Orbital motion as viewed from the *K2C9* superstamp after rotating the Ecliptic relative to the Galactic plane.
4. `reproj_lens_event`: Orbital motion as viewed from the *K2C9* superstamp, scaled to the physical size of the Einstein Ring for a typical microlensing event.
5. `lightcurves`: Light curves for a typical microlensing event as seen from the Earth, *Kepler*, and *Spitzer*.
6. `ecliptic_x_y_x_z_superstamp_tilt`: Contains one window for animations 1 and 2 from above.
7. `reproj_lens_event_lightcurves`: Contains one window for animations 3 and 4 from above.
8. `orbits_lightcurves`: Contains one window for each of 1–4 from above.