

THE HABITABLE ZONE GALLERY 2.0:
AN ONLINE EXOPLANET SYSTEM VISUALIZATION SUITE

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ABSTRACT

We present the Habitable Zone Gallery 2.0 (HZG2), an online service that provides visualizations of exoplanet host star systems and their constituent elements. We combine data from the NASA Exoplanet Archive with the latest climate models in order to exhibit planetary orbits, stellar parameters, and each star system's Habitable Zone (HZ), the region around a star system where liquid water may be present on the surface of a rocky planet given a sufficient atmosphere. The HZG2 brings new levels of perspective via interactive plotting and data analysis tools. We have crafted algorithms that intelligently discern the most appropriate view of an exoplanet system, and publication-ready vector-based plots are provided on demand. Users can easily modify any figure using tools we provide, download the plots in myriad file formats, or directly access the data in table form. The HZG2 supplies animated visualizations of every known exoplanet system with an aim to demonstrate orbital characteristics. Each exoplanet system contains an integrated Aladin Lite module that summons actual imagery in an interactive view of the area of sky the exoplanet host system occupies.

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