Discovery and Characterization of Transiting Planetary Debris Systems with Gaia and ZTF

Zach Vanderbosch, et al.

Division of Physics, Mathematics and Astronomy, California Institute of Technology, Pasadena, CA 91125, USA

White dwarfs that exhibit transits caused by circumstellar planetary debris have a broad range of observational properties that make them difficult both to discover and characterize as a class. Variability timescales that define the transit durations and debris orbital periods range from minutes to months, while the variability itself is often highly irregular and undergoing rapid changes in structure. We present an update to the ongoing search for transiting planetary debris systems using primarily the Gaia and ZTF surveys, and summarize what is currently known about the observational properties of this class, highlighting some of the commonalities and peculiarities among them.