

Preparing time-critical observations of transiting exoplanets with follow-up from the ground

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Abstract

In this presentation I will discuss a long-term project to monitor transiting exoplanets with small and medium scale telescopes from the ground. The main scope of the project is to observe stars that host exoplanets with the aim of improving their ephemerides and help their characterization. In the case of a project on characterising exoplanets, long-term continuous monitoring of targets is necessary. We have conducted more than 50 observations using the equipment of three observatories in Greece and Chile. For data analysis and light curve extraction, our team has developed The Holomon Photometric Software (HOPS).

We designed the software in a user-friendly way to ensure high data quality and reliability in the scientific results while enabling the analysis by as many partners as possible. I will present the methodology, tools and the first scientific results that have been produced out of this collaboration. We are open for contributions in our project either on the observation part or the data analysis. Our ultimate goal is to create a collective list of observations from transiting exoplanets to better identify their ephemerides and characteristics, in support of future instruments, such as the James Webb Space Telescope and the ARIEL mission.