

Pro-Am collaboration on ground-based exoplanet observations in support of the ARIEL space mission

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Abstract

ExoWorlds Spies (www.exoworldsspies.com) is a project that started in early 2018, aiming to monitor transiting exoplanets through long-term regular observations using small and medium scale telescopes. We are actively collaborating with the ARIEL consortium on obtaining follow-up observations of exoplanet-hosting systems in order to define their ephemerides as precisely as possible. In this effort, we are highly supported by amateur astronomers, the Holomon Astronomical Station and the private telescope network of Konica Minolta. We strongly believe that research is an effort that everyone can contribute and thus, in our project we have an active collaboration with amateur astronomers from different locations. To facilitate this, we have developed user-friendly data analysis tools and a dedicated website, in order to disseminate the material to as many people as possible. The website includes audiovisual material, information on the project, data analysis tools, instructions, observational data and graphics. All sources are online, free, and available for everyone both in English and Greek.

So far, we have collected approximately 60 transit observations of more than 25 different exoplanets, from both the North and the South hemisphere, including recently discovered planets with limited data available. These observations prove that multiple small observatories can collaborate in order to cross-calibrate their data and provide complementary, high-precision results. In this presentation, we will present the network of our observing partners, the importance of the synergy with ARIEL, the future observing plans, and the most exceptional cases of exoplanets observed until today as part of our project.