



Ariel - The ESA M4 Space Mission to Focus on the Nature Of Exoplanets

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Ariel, the atmospheric remote-sensing infrared exoplanet large-survey, is the recently adopted M4 mission within the Cosmic Vision science programme of ESA. The goal of Ariel is to investigate the atmospheres of planets orbiting distant stars in order to address the fundamental questions on how planetary systems form and evolve and to investigate in unprecedented detail the composition of a large number of exoplanetary atmospheres. During its 4-year mission, Ariel will observe hundreds of exoplanets ranging from Jupiter- and Neptune-size down to super-Earth size, in a wide variety of environments, in the visible and the infrared. The main focus of the mission will be on warm and hot planets in orbits close to their star. Some of the planets may be in the habitable zones of their stars, however. The analysis of Ariel spectra and photometric data will allow to extract the chemical fingerprints of gases and condensates in the planets' atmospheres, including the elemental composition for the most favourable targets. The Ariel mission has been developed by a consortium of more than 60 institutes from 15 ESA member state countries, including UK, France, Italy, Poland, Spain, the Netherlands, Belgium, Austria, Denmark, Ireland, Hungary, Sweden, Czech Republic, Germany, Portugal, with an additional contribution from NASA. In this talk, we will review the science goals of the mission and give insight into the current status, both from the ESA and the Ariel Mission Consortium point of view.