

The GAPS Programme with HARPS-N at TNG: first results and perspectives

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Abstract

GAPS (Global Architecture of Planetary Systems) is an Italian nation-wide long-term program dedicated to the exploitation of the scientific opportunity offered by the installation of the HARPS-N spectrograph at *Telescopio Nazionale Galileo* (TNG) in the summer of 2012. GAPS has been formulated as a balanced combination of discovery and characterization observations. The project goals are: i) studying the frequency of low-mass planets as a function of stellar mass, stellar metallicity, density of the stellar environment, as well as ii) characterizing known planetary systems, detailing the properties of their star(s), planet(s) and the architecture of the planetary orbits. All this information is mandatory to constrain models for the formation and evolution of planetary systems and to assess planet habitability. We shall report on the main results obtained up to date and discuss the perspectives for the development of the program.

