

The WASP and NGTS ground-based transit surveys

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Abstract

I will review the current status of ground-based exoplanet transit surveys, using the Wide Angle Search for Planets (WASP) and the Next Generation Transit Survey (NGTS) as specific examples. I will describe the methods employed by these surveys and show how planets from Neptune to Jupiter-size are detected and confirmed around bright stars. I will also give an overview of the remarkably wide range of exoplanet characterization that is made possible with large-telescope follow up of these bright transiting systems. This characterization includes bulk composition and spin-orbit alignment, as well as atmospheric properties such as thermal structure, composition and dynamics. Finally, I will outline how ground-based photometric studies of transiting planets will evolve with the advent of new space-based surveys such as TESS and PLATO.