

## The Next Generation Transit Survey (NGTS)

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### Abstract

The Next Generation Transit Survey (NGTS) is a new ground-based sky survey designed to find transiting Neptunes and super-Earths. By covering at least sixteen times the sky area of Kepler we will find small planets around stars that are sufficiently bright for atmospheric characterization with facilities such as JWST, EChO and the E-ELT. The bright host stars will also allow radial velocity confirmation and mass determination, providing the first statistical sample of super-Earth densities and bulk compositions. This sample will place key constraints on models of small planet formation and evolution. I will describe the NGTS facility, which is being constructed at the ESO Paranal observatory during 2013, and present data from our prototype instruments as well as the results of quantitative simulations of our planet catch. These show the potential to measure masses and densities of around thirty bright super-Earths and over two hundred Neptunes.

