
Exoplanet science with K2: Estimates of the planet yield and first science results

Thomas Barclay^{*1}, Douglas Caldwell¹, and Martin Still¹

¹NASA Ames Research Center (NASA - ARC) – NASA Ames Research Center, Moffett Field, California 94035, United States

Abstract

The K2 mission will extend the Kepler mission to the ecliptic plane. With it we will probe various stellar populations with stars spanning all masses, ages and composition. Two key projects for K2 are the detection of planets orbiting bright stars amenable to radial velocity follow-up and cool stars where small planets can be more readily detected. We explore the motivation for concentrating on these two populations and present estimates based on simulations of the Galaxy and the observed noise level from K2 of the properties of the planets we will find. Furthermore, with photometry in hand we present the first exoplanet science results from two-wheel Kepler data which includes one or more transiting planets.

^{*}Speaker