

Stellar and Planetary Data Products Expected from the Kepler Mission

W. J. Borucki, David G. Koch
NASA Ames Research Center, Space Science Division, Moffett Field, CA

Gibor Basri
University of California, Berkeley

William Cochran
University of Texas, Austin

Edward W. Dunham
Lowell Observatory, Flagstaff, AZ

Ronald Gilliland
STScI, Baltimore, MD

Jon M. Jenkins, Douglas Caldwell
SETI Institute, Mountain View, CA

Yoji Kondo
NASA Goddard Space Flight Center, Greenbelt, MD

David Latham, John Geary
SAO, Cambridge, MA

The Kepler mission is a Discovery-class mission scheduled to be launched in the 2006-2007 time-frame. It is a wide field of view photometer with a 0.95 m aperture designed to attain a photometric precision of 2 parts in 10^5 for 12^{th} magnitude stars. It will continuously observe 100,000 main-sequence stars brighter than 14^{th} magnitude for a period of four years with a cadence of 4/hour. Several hundred terrestrial-size planets will be detected if they are common around solar-like stars. Based on the current results of Doppler-velocity searches, over a thousand giant planets will also be found. A guest investigator program is planned that would provide the opportunity to observe thousands of other objects in the 105 square degree FOV. Such objects could include AGN, giant stars, and variable stars of all types. A ground-based program to classify all 225,000 stars in the FOV and to monitor a subset of the stars that show planetary companions to determine their metallicity and H&K variability is also planned. The data will be rapidly released to the community for follow up observations and for changes to the guest investigator program.