

SAG17 Update: Community Resources Needed For K2 And TESS Planetary Candidate Confirmation

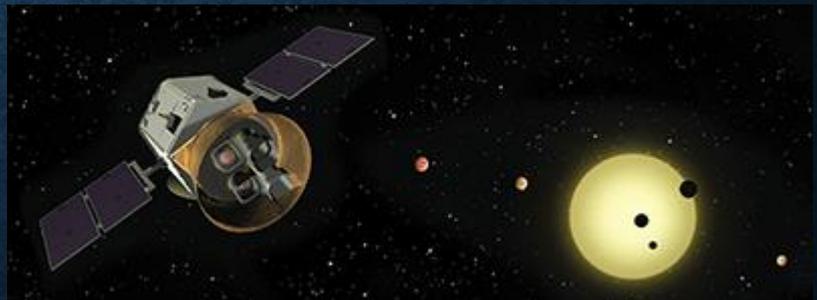
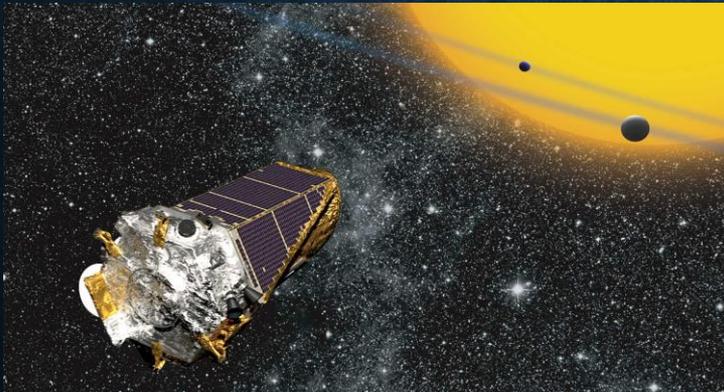
David R. Ciardi – NExSci/Caltech

Joshua Pepper – Lehigh

Knicole Colon – NASA Ames

Stephen Kane – SFSU

2017 January 02



SAG17 Charter

- Identify needed follow-up observations for K2 and TESS
 - Imaging: Seeing-limited and High Spatial resolution
 - Spectroscopy: Stellar parameters and radial velocity
 - Photometric Time – series
- Identify resources available to the US community
 - Telescopes and Instruments (space and ground)
 - Estimate available time
 - Financial
- Identify how archival resources can be utilized (e.g., Gaia)
- Identify how the community and resources can be organized
 - TESS FFIs analyzed, candidates identified, and candidates prioritized
 - Community communication – lessons learned from Kepler and K2
- Identify needs to ensure efficient and effective characterization with JWST (and WFIRST)
- Identify connections to other SAG efforts (e.g., SAGs 15 and 16)
- Identify synergies of resources with non-exoplanet science

Kick – Off Telecon

- Telecon Held 27 October 2016
- Had about 20 Participants
- Presented a draft outline of the report
- Key feedback on the outline:
 - Focus on the needs of follow-up confirmation and preparatory observations for characterization
 - Financial resources are just as important as telescope and instrumental resources

Reformed Outline of Report

1. Executive Summary [Section lead: Ciardi]
 2. Introduction [Section lead: Colon]
 3. Planet Confirmation & Exclusion of Standard False Positives (What we want to do) [Section lead: Pepper]
 4. Assembly of Essential Parameters of Planetary Systems (How we're gonna do it) [Section lead: Kane]
 5. Resources Necessary (What we need to do it) [Section lead: Ciardi]
 6. Challenges (What obstacles are in the way) [Section lead: Ciardi]
- Doing this as an online google document
 - Link will be sent out in a few weeks as the initial draft is composed

Other Related Efforts

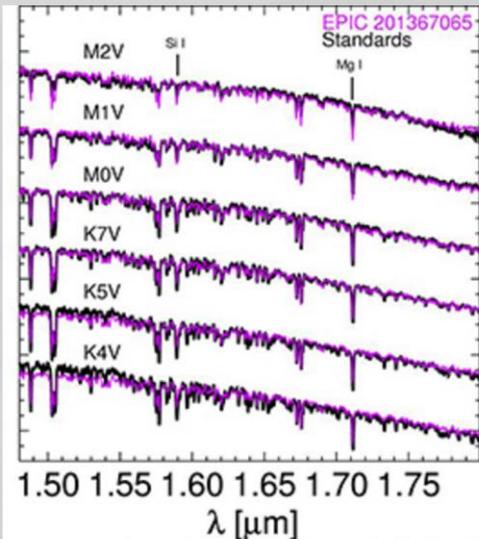
- TESS Follow-up Observation Program (TFOP) Working Group
 - TFOP WG led by Dave Latham
 - Subgroups
 - Seeing Limited Imaging & Time Series Photometry [Lead: Collins]
 - Reconnaissance RV and Spectroscopy [Lead: Quinn]
 - High Resolution Imaging [Lead: Ciardi]
 - Precision Radial Velocity [Lead: Latham]
 - Space-based Follow-Up [Lead: Crossfield]
 - ExoFOP-TESS Website [Lead: Christiansen]
- These are many of the same people involved in the SAG17 and the identification of resources specifically for TESS is directly related to the content of SAG17
- Using this working group to advertise the SAG and get more community involvement

Follow-Up Conference

Know Thy Star - Know Thy Planet

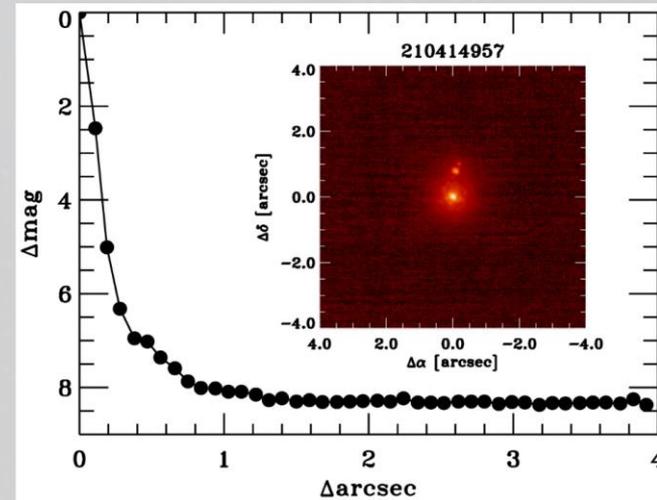
Assessing the Relevance of Ground-based High Resolution Imaging and Spectroscopy of Exoplanet Host Stars

October 9-12, 2017 — Hilton Pasadena in Pasadena, CA



This meeting will gather experts in the field to understand community needs for follow-up observations in the era of *K2* and *TESS* and leading into *JWST*, *PLATO*, and *WFIRST*.

The three and a half day meeting will focus on the needs for stellar characterization, bound (and unbound) companions, false positive assessment, and planetary characterization with an emphasis on the techniques necessary to accomplish these goals. The follow-up needs for radial velocity, transit, direct imaging, and microlensing detections of planets are similar but also different in detail.



SCIENTIFIC ORGANIZING COMMITTEE

Chas Beichman (Caltech-NExSci)

Steve Howell (NASA Ames)

David Ciardi, Chair (Caltech-NExSci)

Dave Latham (CfA)

Magali Deleuil (LAM)

Erik Mamajek (JPL)

Calen Henderson (JPL)

Savita Mathur (SSI)

Andrew Howard (Caltech)

Dave Soderblom (STScI)

<http://nexsci.caltech.edu/conferences/2017/knowthystar/>

Questions or to be added to the email list: knowthystar@ipac.caltech.edu

Next Steps

- Ciardi, Pepper, Colon, & Kane [CPCK] starting to draft content for the sections [email sag17@ipac.caltech.edu setup to be used for communication]
- Call for a telecon at the end of January with current report content sent out to community
- Use this telecon to recruit additional interested persons
- CPCK writing fest in February with follow-on telecon with SAG17 in March
- On track for a draft report by June 2017 ExoPAG
- Concurrent effort on TESS-FOP and FOP Conference will help define and develop report.