Updates from the NASA Exoplanet Science Institute

David R. Ciardi
NExScI Chief Scientist
On Behalf of the NExScI Team

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Circumstellar Disks and Young Planets

- Focus on young planets and the circumstellar disks from which they form during the first few million years of a star's lifetime
- Properties of transiting young planets detected by the Kepler/K2 and TESS missions
- Gaia identification of groups of young stars and determination of their ages
- Properties of planets and disks imaged directly with ground-based faculties (e.g., Gemini/GPI, SPHERE/VLTI, Keck and ALMA) and space-based telescopes (Spitzer, HST, and JWST)
- Environment influence of an active young star on the evolution of the primordial atmosphere of a young planet
- Theoretical bases for the formation and evolution of a planetary systems, including both the disk and planets

• 19 – 23 July 2021
• Expected to be fully virtual
• Free Registration opens mid-Feb
• Twitter: #sagan2021
NASA Keck Observatory Activities

• NASA Keck Time: 2021B Call For Proposals
  • All of astrophysics and planetary science topics
  • 2021B Proposals due 18 March 2021
  • Review moving to Dual Anonymous for 2022A semester (Fall 2021 call)
  • https://nexsci.caltech.edu/missions/KeckSolicitation/

• HIRES Precision Radial Velocity Processing Environment
  • Python API enables access to PRV processing service running on NExScI servers to produce precision radial velocities for HIRES data
  • Access to a pre-reduced HIRES data containing all compatible public radial velocity observations (60,000 RVs for over 1600 stars)
  • New data collected on a previously-observed star can be appended to the existing dataset
  • https://nexsci.caltech.edu/tools/prv_index.shtml

• New python-based API to Keck Observatory Archive (pyKOA)
  • Initial access to HIRES and DEIMOS data (more instruments coming)
  • Based upon NExScI-TAP service
  • https://koa.ipac.caltech.edu/UserGuide/PyKOAPyKOA.html
• Archive undergoing a revamp to better manage the growth in the size and complexity of the field

• New releases of the Planetary Systems and Planetary Systems Composite Parameters tables
  • Integrated community feedback since initial releases
  • Older Confirmed/Extended/Composite tables to be phased-out in February 2021

• Release of new Overview Pages
  • Enabling more integrated access to content for a given planetary systems

• Feedback always welcome

• 2021 Priorities
  • Finish revamp
  • More integrated datasets and access through API
  • Python/Notebook tutorials
  • Improved UI/UX
Enabling a More Integrated ExoFOP

- ExoFOP continues to support the TESS mission and TESS Follow-up Observation Program
  - 90,000 files; 20,000 observing notes; 16,000 recorded observations
- As part of the Archive revamp and to enable more integrated access, ExoFOP is being consolidated: ExoFOP-Kepler, ExoFOP-K2, and ExoFOP-TESS into a single “all-sky” ExoFOP
- ExoFOP-Kepler migration nearly complete
  - 11,000 stellar parameter sets
  - 10,000 planet parameter sets
  - 16,000 observation summaries
  - 15,000 observing notes
  - 95,000 files
  - 3,500 stellar companion properties
- 2021 Priorities
  - Continued support of TESS Follow-Up Observation Program
  - Close-out ExoFOP-Kepler (February 2021)
  - ExoFOP-K2 data migration and close-out of ExoFOP-K2

[Image: https://exofop.ipac.caltech.edu]
Come Join the Team ...

• Scientific Application Developer
  • Work on the Exoplanet Archive and other NExScI projects in the development of user-oriented services for visualizing and data interaction
  • Background in Astronomy, Physics, Math, Computer Science, Computer Engineering, Information Sciences, or a related field.
  • Experience with C/C++, Python/Jupyter, and/or Java, server virtualization and cloud services, and containerization
  • [https://jobregister.aas.org/ad/2d4996c6](https://jobregister.aas.org/ad/2d4996c6)

• Science Data Analyst (coming soon)
  • Work on the Exoplanet Archive to make crucial contributions in maintaining the up-to-date database and archive content
  • Background in astronomy or physics
  • Experience with basic programming and scripting with python, perl etc.
Come See Us at the AAS Meeting!

- Booths and daily activities in the Exhibit Hall
- NASA Exoplanets: NExScI with TESS and ExEP
- IPAC Archives: Exoplanet Archive and KOA
- Webinars
  - Keck Observatory Archive: Monday 11 Jan 1pm ET
  - Exoplanet Archive: Monday 11 Jan 1:30pm ET
  - NExScI: Thursday 14 Jan 12:30pm ET