



# Updates from the NASA Exoplanet Science Institute

Jessie Christiansen

Caltech/IPAC

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# NExSci: NASA's ExEP Science Center

- Support the scientific community in their use of NASA missions to explore questions about the formation and evolution of planetary systems
- NExSci is the community-focused science center of NASA's Exoplanet Exploration Program
- Located on Caltech campus as part of IPAC





# NExSci leadership changes

Chas Beichman has stepped down as NExSci Executive Director; David Ciardi is serving as Acting Executive Director



Aurora Kesseli and Meca Lynn are the new NASA Exoplanet Archive Deputy Science Lead and Deputy Engineering Lead



Tiffany Meshkat is now the Keck Observatory Archive Project Scientist

# 2025 Sagan Summer Workshop

## Silver Jubilee – Exoplanet Demographics

- July 21-25, 2025
- How techniques from RV and transits to imaging, astrometry, and microlensing contribute to our understanding of exoplanet demographics
- Fully hybrid: 1611 total registrations (1313 remote and 298 in person)
- Video and PDFs of the talks available online
- Hands-on session material available online

<https://nexsci.caltech.edu/workshop/2025/>



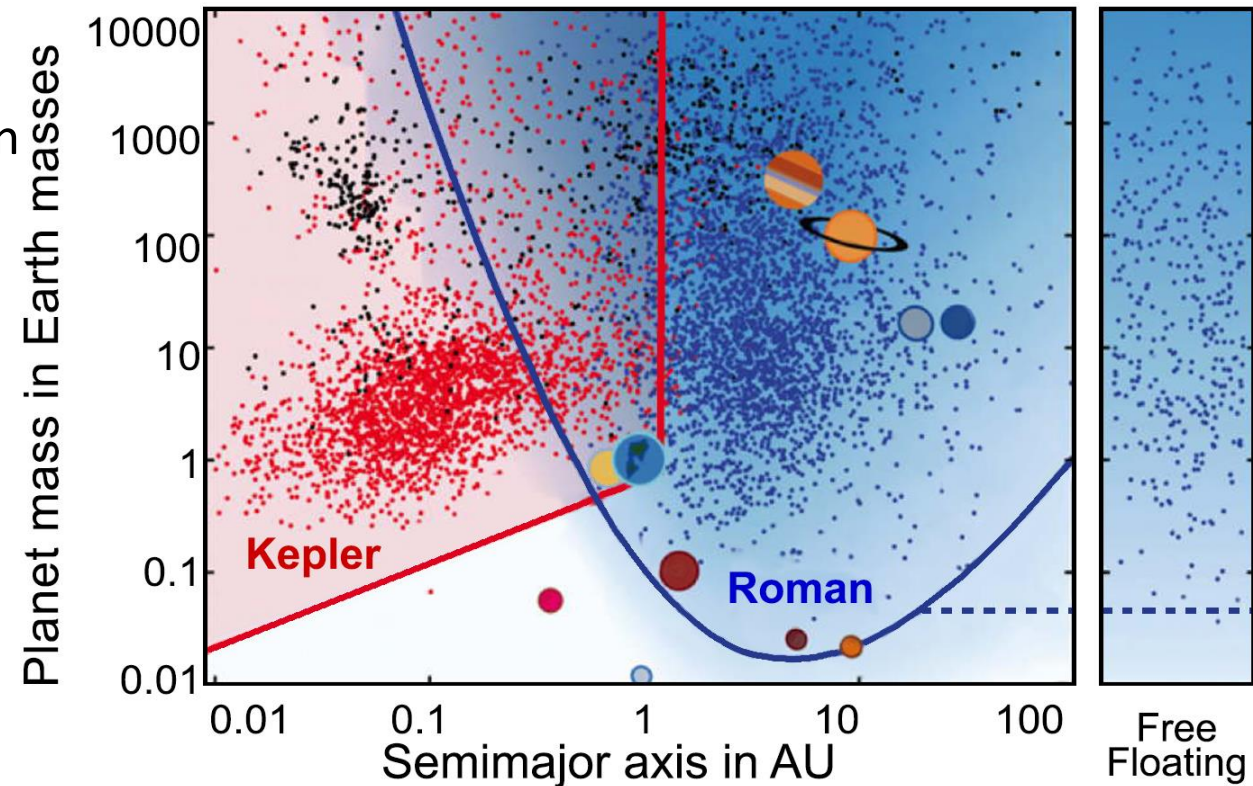
# 2026 Sagan Summer Workshop

## Exoplanets with Roman Surveys: Microlensing and Transits – July 20-24, 2026

### Important dates:

- **February 2:** Registration and travel support application sites available (no registration fees!)
- **March 5:** Deadline for travel support applications and recommendation letters
- **April 6:** Travel support decisions announced via email
- **May 20:** Deadline for NASA and JPL employees to forecast their attendance
- **Late June:** Deadline for Pasadena Hotel room reservations

<https://nexsci.caltech.edu/workshop/2026/>



# Community Observing Resources

Community access to observing resources for exoplanets and more

## Keck

- Supports strategic programs from all of astrophysics, solar system
- All instruments, both telescopes

## NN-Explore

- WIYN
  - NEID (PRV and daily solar data);  
<https://neid.ipac.caltech.edu/>
  - NESSI (HRI); WHIRC (NIR imaging/time series); HYDRA (MOS)
- Gemini-North/South
  - 'Alopeke (North) and Zorro (South)
  - High resolution imaging speckle cameras

[https://nexsci.caltech.edu/tools/obs\\_res.shtml](https://nexsci.caltech.edu/tools/obs_res.shtml)



## 2026B Proposals Due to NExSci March 12

- Supports all astrophysics and planetary science
- Keck Strategic Mission Support and HWO technology/precursor science proposals also solicited
- DAPR-compliant evaluations
- <https://nexsci.caltech.edu/missions/KSA/>



## Joint JWST-NASA Keck Proposal Opportunity in Cycle 5

- Up to 10-15 nights could be allocated by JWST TAC (2026B and 2027A)
- Data from both observatories are required to meet the science goals
- <https://nexsci.caltech.edu/missions/KeckSolicitation/jwst-keck.shtml>



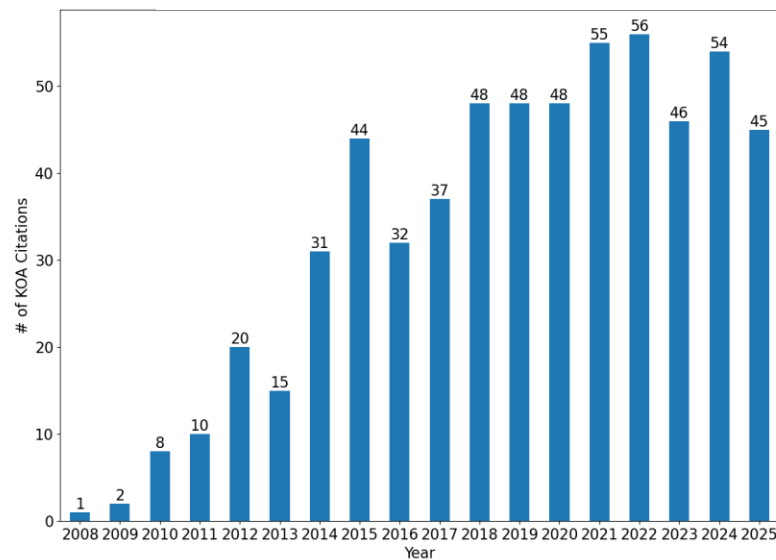
# Keck Observatory Archive

- KOA ingests raw data from all Observatory instruments, quick look data from 5 instruments, science-ready data from 8 instruments
  - Pipeline-processed data from KPF and NIRES released by instrument teams
- Contributed data set [Development of the WFIRST Exoplanet Mass Measurement Method](#) (PI. D. Bennett)
- **Peer reviewed papers citing KOA represent ~20% of the Observatory's science output**
- DEIMOS slit mask tables (when available) are included in the Raw overview page and included with the Level 0 packaging
- Beta release of the [Data Discovery Service](#) and an associated Jupyter notebook, which offer queries of the entire archive in seconds
- Completed automation of user accounts at WMKO at and NExSci
- Preparing for ingestion of NIRC2 polarimetry data and SCALES data
- 115 NASA PIs have been notified about possible extensions since April 2, 2025; 4 total extensions approved

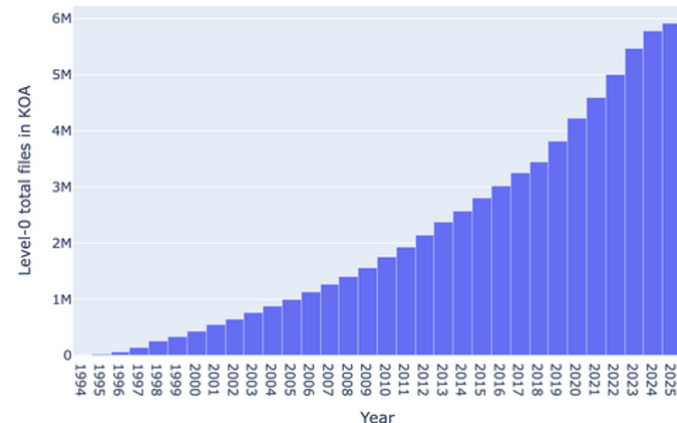
<https://koa.ipac.caltech.edu>

KOA is a collaboration between NExSci and the W. M. Keck Observatory

Citation rate for KOA (2008-2025)



KOA all instruments Level-0 total files growth 1994–2025





# NEID Archive; LOST solar data

The **NEID Archive** contains L0-L2 data, including:

~25,000 stellar RVs

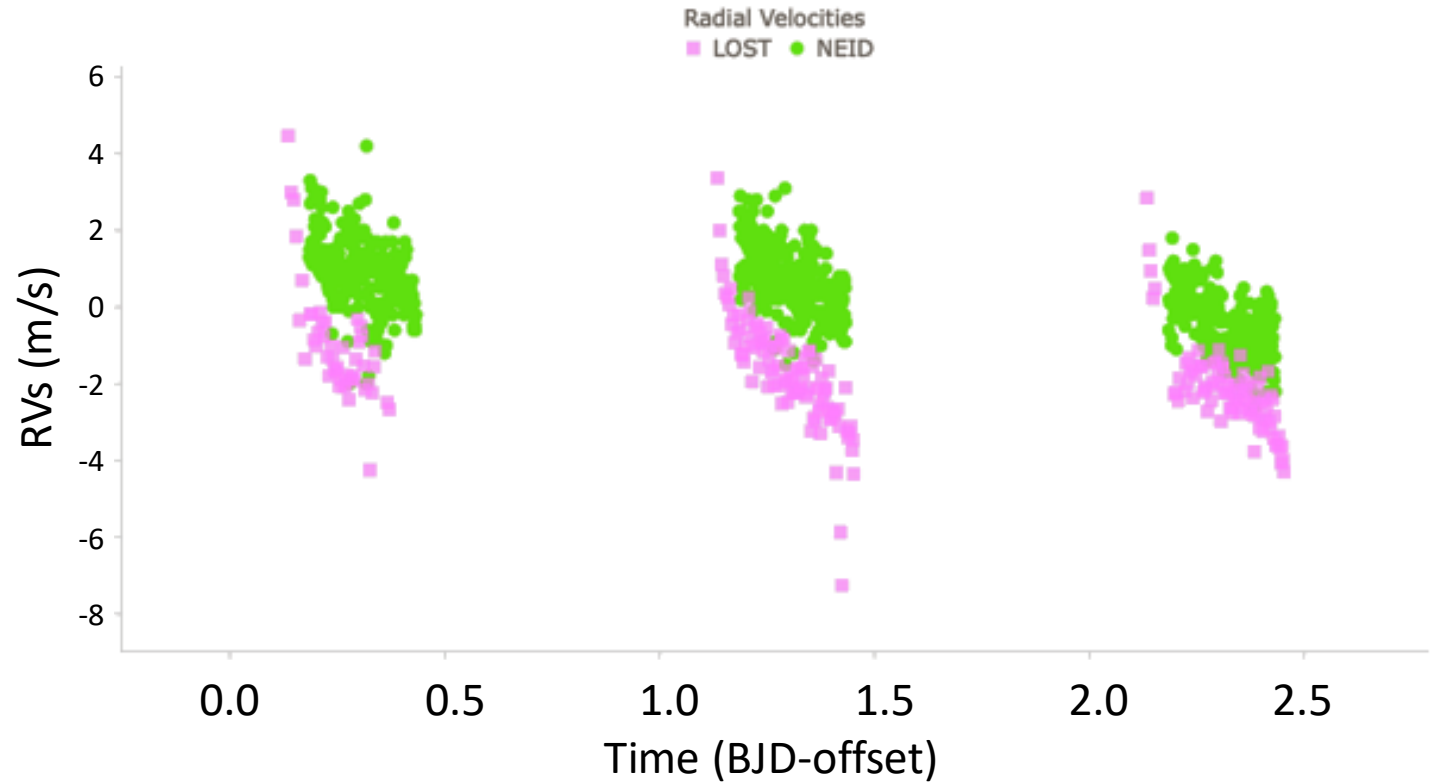
~286,000 solar RVs

<https://neid.ipac.caltech.edu/search.php>

**Coming soon!**

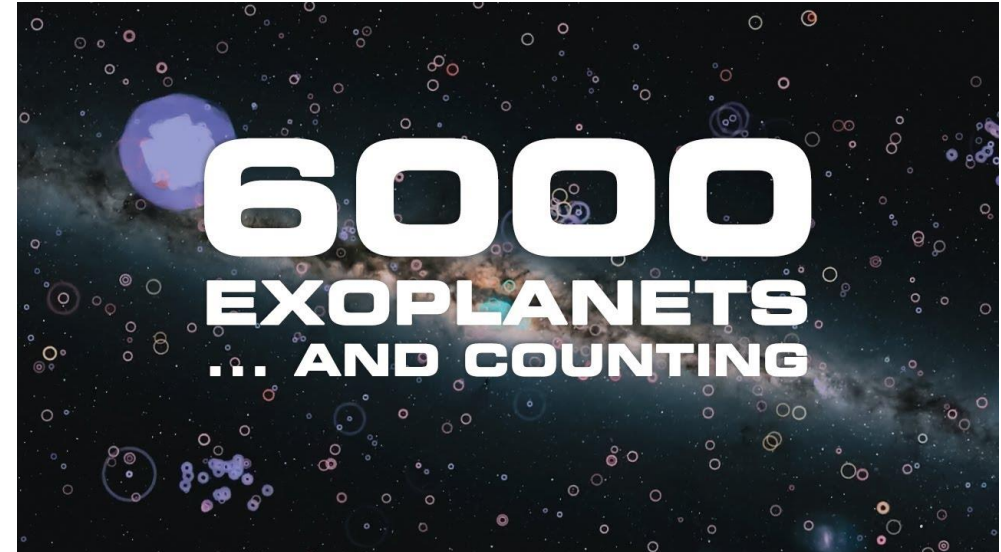
Lowell Observatory Solar Telescope  
(solar feed to the EXPRES spectrograph  
on the Lowell Discovery Telescope)  
data

6500 solar RVs in hand, interface to be  
released soon



# NASA Exoplanet Archive

- Passed 6,000 confirmed exoplanets and 1,000 atmospheric spectra!
- New contributed datasets: ROME/REA Microlensing Survey of 8 million light curves from LCO, and the FDL INARA dataset of 3 million synthetic spectra of rocky planets
- Updated overview pages: expanded bibliographies, discovery data, and interactive functionality
- Preparing for Pandora! Launching early January, the NEA is the mission archive, and will host the Level 1-3 data products



# Published Data Upload service

- NASA Exoplanet Archive now provides templates for users to upload published, peer-reviewed stellar and planet parameters to the archive for review
- Goal of improving accuracy and efficiency of ingesting data into the archive
- Support from AAS Journals for providing template/recommendations for use by authors
- Priority will be given to parameters for new planets; updated parameters for previous planets assessed case by case

## NASA EXOPLANET ARCHIVE

### NASA EXOPLANET SCIENCE INSTITUTE

- Home
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#### Upload Stellar and Planetary Parameters

On this page, you may submit a data file that adheres to the format in the template provided below to facilitate getting your accepted, peer-reviewed stellar and planetary parameters reviewed for addition to the NASA Exoplanet Archive quickly and accurately.

Currently, the template can be used to submit stellar and planetary data for any of the following types of planets:

- Newly discovered transiting and/or radial velocity planets.
- Previously announced transiting and/or radial velocity planets (i.e., those currently in the NASA Exoplanet Archive).

Priority will be given to newly discovered transiting and/or radial velocity planets. Please review the [first question in our FAQ](#) that provides the criteria for determining when parameters for previously announced transiting and radial velocity planets are added to the archive.

To make sure everything goes smoothly, your

All submissions are reviewed by archive staff.   
 does ensure your data will be considered as q

A staff member will respond within one bus

Download the t

#### Submission Requirements

- Use the [nasa\\_exoplanet\\_archive\\_param](#) accepted.
- You must have and be logged into a NAS
- For consideration, the parameters must l  
paper must be included in the form below
- The object (star and planet) names in the  
Catalogs page. **If you are creating a ne**
- Submit one file per gravitationally bound
- All three checkboxes must be checked in

**Login Required**

Please [log in](#) to submit f

##### PREAMBLE #####

# NASA Exoplanet Archive template for reporting planet parameters for confirmed or  
validated planets detected by transit and/or radial velocity

# Template Version 1.0 2025-09-09

# This template was prepared by: [e.g. EXOFASTv2, allesfitter v1.2.9]

# NOTES:

# FILE PREPARATION:

# Format: csv

# # Indicates a comment

# \* indicates a required row; other rows can be removed or commented out as necessa

ry

# Each file represents one gravitationally-bound system (which can include multiple  
stars and planets)

# Each section has example rows (commented out) for guidance; they can be removed o

r left commented out

# All parameters under a 'st\_name' or 'pl\_name' row are considered to belong to the  
named object, until a different name is reached (or the end of the file).

# Users are expected to take note of the units anticipated by this template

# If the system has more than one star, copy and paste the stellar parameters secti  
on multiple times,

# just be sure to set the host\_star\_flag to 1 for the star/s that host the planets  
(two stars can have host\_star\_flag = 1 for circumbinary planets)

# NAMING CONVENTIONS

# Names for planets provided in this template must adhere to the accepted catalogs  
in the NASA Exoplanet Archive (see link below)

# Accepted Catalogs: <https://exoplanetarchive.ipac.caltech.edu/applications/Inventory/search.html>

# Planets requiring new catalog names to be defined (i.e. the first confirmed plane  
t from a new survey) cannot be submitted using this template

# PARAMETER DEFINITIONS

# Uncertainties are assumed to be 1-sigma uncertainties

# No specific planet parameter is required but at least one planet parameter must b  
e specified

# Planet parameters must be published in an accepted and refereed journal to be sub  
mitted with this template

# Values, uncertainties, and precisions provided in this file MUST match the values  
, uncertainties, and precisions published in the accepted paper

ExoFOP provides the exoplanet community with a venue for coordinating and sharing follow-up and precursor data for exoplanets, their host stars, and stars that might eventually be targets for future planet searches

- Over one million files uploaded! (1,054,793!)
- Pandora prime mission target list now added (alongside previous HWO and Ariel lists)
- Gaia DR3 IDs added to all targets
- New functionality allows initiation/update of planet candidates from any project, not just Kepler/K2/TESS

### STARS

Go to Target: ?

Find TIC IDs

[Search the TESS Candidate Target List](#)

[Download the TESS Candidate Target List](#)

[Follow your favorite targets](#)

[TIC v8.2 release notes](#)

### PLANETS

[List of TOIs](#) 7,821

[List of Community Candidates](#) 3,894

[List of KOIs](#) 9,564

[K2 Candidates \(Exoplanet Archive\)](#)

[K2C9 Microlensing \(Exoplanet Archive\)](#)

[Search TOIs](#)

[Saved Searches](#)

[Table Preferences](#)

### MISSION TARGETS ?

[Ariel TESS Candidates](#) 436

[Ariel Known Exoplanets](#) 114

[Ariel Known Exoplanet Host Stars](#) 53

[HWO ExEP Precursor Targets](#) 164

**[Pandora Targets](#) 20**

### OBSERVATIONS

[Imaging](#) 34,977

[Spectroscopy](#) 33,091

[Time Series](#) 20,425

[Stellar Companions](#) 8,950

[Table Preferences](#)