

Spring 2025

PRIMA

Community Newsletter

Key Dates:

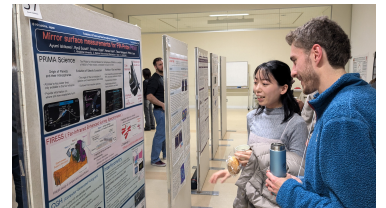
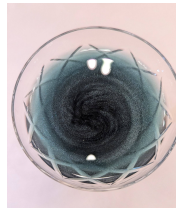
- **May 19-21** PRIMA and the Future of Far-Infrared Science (Pasadena, CA)
- **May 30** GO Book Vol. 2 submission deadline
- **June 8-12** Identifying and Bridging Gaps in Laboratory Astrophysics at AAS 246 (Anchorage, AK)
- **June 23-27** EAS2025 Special Session 38: A Bright Future for Far-Infrared Astrophysics in Europe (Cork, Ireland)

News and Updates:

- **New Affiliates:** The PRIMA team is excited to welcome 17 Science Affiliates (SAs). SAs are contributing to PRIMA by refining PRIMA's science implementation program and articulating its capabilities through a variety of activities. You can find the full list of SAs on **Page 2**.
- **Working groups launch:** More than 300 community members signed up for PRIMA's Phase A working groups! More details on the working group activities can be found on **Page 2**.
- **GO Book Volume 2:** Supported by the working groups and a new Exposure Time Calculator, we are excited to announce submissions are now open for Volume 2 of PRIMA's General Observer (GO) book. More information can be found on **Page 3**.
- **Progress on JATIS Special Issue:** Editors Matt Griffin and Naseem Rangwala have received more than 3 dozen article submissions. Submissions are currently undergoing peer review, for a target publication date of summer 2025.

Recent PRIMA Community Meetings

The conference "**Evolution of Dust and Gas throughout Cosmic Time**" took place in Hiroshima, Japan, from December 9–13, 2024, bringing together approximately 140 researchers from 21 countries. The event was a great success, fostering lively discussions and revealing exciting new insights in the field. PRIMA featured prominently in discussions as a future facility for exploring dust and gas across the Universe, from nearby to distant galaxies. **JD Smith (U of Toledo)** delivered an inspiring talk on the groundbreaking opportunities PRIMA will unlock. The enthusiasm for PRIMA extended to the poster sessions, where **James Donnellan (U. of Sussex)** showcased the capabilities of PRIMAgar, **Ayumi Ishikawa (Hiroshima U.)** presented innovative methods for measuring freeform mirror surfaces in cryogenic conditions, and **Yoshiki Toba (NAOJ, Ritsumeikan U)** highlighted PRIMA's potential to detect high-redshift JWST sources in the CEERS and JADES fields. Attendees also enjoyed the signature drink 'Starry Dusty Night'—fueling further discussions on far-infrared observations.



The conference "**Dusting Off the Secrets of the Cosmos with PRIMA Space IR Telescope**" took place in Marseille, France from March 31 - April 2, 2025. More than 100 participants in person and online gathered to discuss past and future infrared facilities and the science that would be enabled by PRIMA.

PRIMA was a big presence at the Winter AAS in National Harbor, DC January 12-16, 2025. A full room gathered for our special session on **Enabling Space-Based Far-Infrared Science in the 2030s with PRIMA**, and hundreds of astronomers dropped by our IPAC booth. **Alexandra Pope (UMass)** gave an exciting plenary talk on galaxy evolution that featured the future promise of PRIMA.



Working Groups

PRIMA's Phase A working groups have launched. Below is the current list of working groups and leads. There is still time to get involved: [sign up here](#) to get an invitation to join our Slack space and participate!

AGN Across Cosmic Time

- Sylvain Veilleux (U.Maryland)

Cosmic Ecosystems

- Rebecca Levy (STScI)

Debris Disks

- Christine Chen (STScI)
- Meredith MacGregor (Johns Hopkins U.)

Galaxy Evolution from Cosmic Dawn to Cosmic Noon

- Irene Shivaiei (CAB, Madrid)
- Jed McKinney (UT Austin)

Mapping Magnetic Fields in the Local Universe

- Enrique Lopez Rodriguez (U. South Carolina)
- Kate Pattle (University College London)

Milky Way Interstellar Medium and Star Formation

- Frédérique Motte (IPAG, CNRS, U. Grenoble Alpes)
- Dylan Paré (Villanova U.)
- Yao-Lun Yang (RIKEN, Japan)

Protoplanetary Disks and Exoplanets

- Andrea Banzatti (Texas State U.)
- Ke Zhang (U. Wisconsin)

Solar System and Planetary Science

- Dariusz Lis (JPL)

Stars and Stellar Evolution

- Olivia Jones (Royal Observatory, Edinburgh)
- Sundar Srinivasan (Institute of Radio Astronomy and Astrophysics, UNAM)

Time Domain and Transients

- Mansi Kasliwal (California Institute of Technology)
- Kishalay De (Columbia U.)

Introducing PRIMA Science Affiliates



Andrea Banzatti
(Texas State)



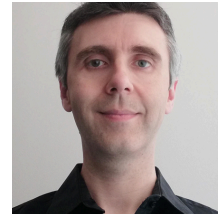
Matthieu Béthermin
(Observatoire de
Strausberg)



Henrik Beuther
(MPIA)



Laura Bisigello
(INAF)



Médéric Boquien
(Observatoire de
Côte Azur)



David Chuss
(Villanova)



Darren Dowell
(JPL/Caltech)



Thomas Essinger-
Hileman (GSFC)



Eduardo Gonzalez-
Alfonso (Universidad
de Alcalá)



Alan Kogut
(GSFC)



Dariusz Lis
(JPL/Caltech)



Meredith
MacGregor (JHU)



Jed McKinney
(UT-Austin)



Seb Oliver
(University of
Sussex)



Colette Salyk
(Vassar)



Irene Shivaiei
(Centro de
Astrobiología)



Thomas
Stevenson
(GSFC)



GO Book Vol. 2

Submissions are now open for Volume 2 of PRIMA's General Observer (GO) Science Book!

The submission deadline is May 30.

If you are interested in submitting a science case, we encourage you to seek support from PRIMA's working groups and to consult [slides](#) and [recordings](#) from our community webinar.

We also refer authors to the updated instrument specifications on [PRIMA's instrument page](#), as well as to our new Exposure Time Calculator (see below).

We encourage resubmissions of cases from GO Book Volume 1 that are updated to match the latest PRIMA performance model.

Please reach out to lead editors [Arielle Moullet](#) and [Denis Burgarella](#) at any time with your questions!

Instruments and modes used: [specify details relevant to the observations]

FIRESS Spectrometer			
Pointed High-res (R~4400@ 112 microns)	Mapping High-res (R~4400@ 112 microns)	Pointed Low-res R~100	Map Low-res R~100
[specify number of pointings]	[specify size (x,y in arcmin) and number of maps]	[specify number of pointings]	[specify size (x,y in arcmin) and number of maps]

PRIMAger Imager		
Mapping details	Hyperspectral band (24-84 microns; R~10)	Polarimeter band (84, 126, 172, 225 microns; R~4)
[specify size (x,y in arcmin) and number of maps] *	[check if necessary to your science case]	[check if necessary to your science case]
If you selected Polarimeter Band, do you need polarimetry information? Yes/No		

*note that the minimum usable map size is 5'x5' for the hyperspectral band and 10'x10' for the polarimeter band

Approximate integration time, for each instrument mode. Estimation can be based on PRIMA ETC, or other method (please specify). Do not include overheads (slews, calibration, etc.)

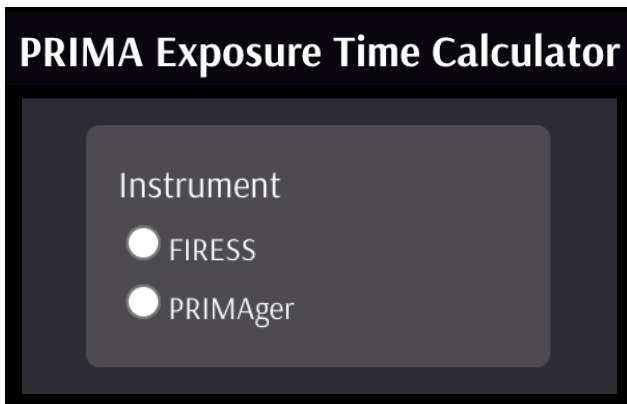
An example page from the provided [submission template](#).

New Exposure Time Calculator

To help community members prepare GO cases for PRIMA, we have launched a new web-based PRIMA [Exposure Time Calculator](#) (ETC).

The PRIMA ETC calculates the exposure time required to reach a given line flux, continuum flux density, or survey depth for the science observing modes of both of PRIMA's instruments: FIRESS and PRIMAgger.

For a brief overview of the ETC's capabilities, you can reference [slides](#) and a [talk recording](#) that demonstrate the ETC's performance. For questions about the exposure calculator, please contact [John Arballo](#).



P-CAST Talks

Our monthly online talk series takes place on the 4th Monday of the month at 12:00 PM Eastern

April 27 : Jochem Baselmans

May 21 : Desika Narayanan

Information on how to join is on our [P-CAST page](#)!

Recordings of past P-CAST talks and other PRIMA talks can be found on our [YouTube channel](#)!

Jason Glenn, Principal Investigator, GSFC
Margaret Meinel, Deputy PI, JPL
Matt Bradford, Project Scientist, JPL
Klaus Pontoppidan, Deputy PI, JPL
Alexander Page, Science Lead, UMass
Tiffany Katana, Deputy SL, JPL
Jen Rocco, Proposal Capture Lead, JPL

Please see our website for a list of Co-Is:

JPL NASA GSFC RAE SYSTEMS ipac cnes ESA S'RON NGT

Jan 27: [Jason Glenn \(GSFC\)](#)

P-CAST TALK SERIES

UN-OBSCURING OBSCURATION IN Z>4 AGN WITH PRIMA

ERINI LAMBRIDES

NPI FELLOW/NASA-GODDARD CO-FOUNDER OF NASA-PEER

Feb 24: [Erini Lambrides \(GSFC\)](#)

Ke (Coco) Zhang, UW-Madison

PRIMA Community Astronomy Science and Technology talk, March 24th, 2025

Mar 24: [Ke Zhang \(U. Wisconsin\)](#)



PRIMA spotlight Highlighting the people who make PRIMA happen!



Steve Unwin (JPL)

Proposal Manager for PRIMA's Concept Study Report

Dr. Unwin is an astronomer and system engineer at NASA's Jet Propulsion Laboratory. He has 25 years of experience at JPL in mission concept development and mission proposals. He helped SPHEREx all the way through early concept development (starting in 2013!), two proposals and flight mission development, to science operations in orbit in April. Steve started at Caltech as a radio astronomer, imaging relativistic jets in quasars, and managing a VLBI facility, before moving to JPL with roles in the Exoplanet Program office. He's excited to help the PRIMA team carry the mission through a winning proposal and to selection as a NASA flight project!



Al Kogut (NASA-GSFC)

Leading the development of the Fourier Transform Module for PRIMA's FIRESS instrument

Dr. Kogut is an astrophysicist at NASA's Goddard Space Flight Center. Since joining NASA in 1989 as a member of the Cosmic Background Explorer (COBE) team, he has amassed over 35 years of experience building precision instruments to measure the spectrum, anisotropy, and polarization of the cosmic microwave background and interstellar medium from ground-based, balloon-borne, and satellite platforms. As part of the PRIMA team, he is leading the development of the Fourier Transform Module, which couples to the FIRESS spectrometer to improve the spectral resolution by 1--2 orders of magnitude compared to FIRESS alone.



Colette Salyk (Vassar College)

Defining how PRIMA can be used to study water vapor at or beyond the disk snow-line, where giant planets are believed to form.

Colette is a leader in using ground-based telescopes, as well as Spitzer and now JWST, to study the distribution of water vapor in protoplanetary disks.

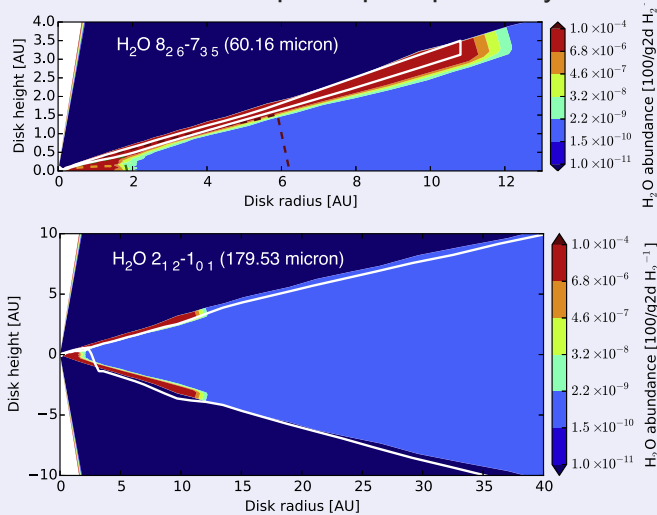


Figure: Different water emission lines are sensitive to very different parts of the protoplanetary disk water reservoir. In the edge-on model shown here, the white line encloses the region responsible for the bulk of the observed line intensity. The 60 micron line emission traces the inner disk surface while the 179 micron line primarily traces the outer disk (Blevins et al. 2016).



Irene Shivaie (Astrobiology Center, CAB Madrid)

Co-lead of Galaxy Evolution working group, focused on galaxies from the era of reionization to the peak epoch of galaxy growth

Irene is a former Hubble fellow and part of the JWST MIRI commissioning team since 2017. She is the PI of the 1.5M€ European Research Council grant DistantDust, leading a research group at the Astrobiology Center in Madrid, Spain, focused on studying dust and the interstellar medium beyond the local Universe. She is excited about using PRIMA to explore PAHs, dust emission, and the ISM of galaxies at cosmic noon and beyond.

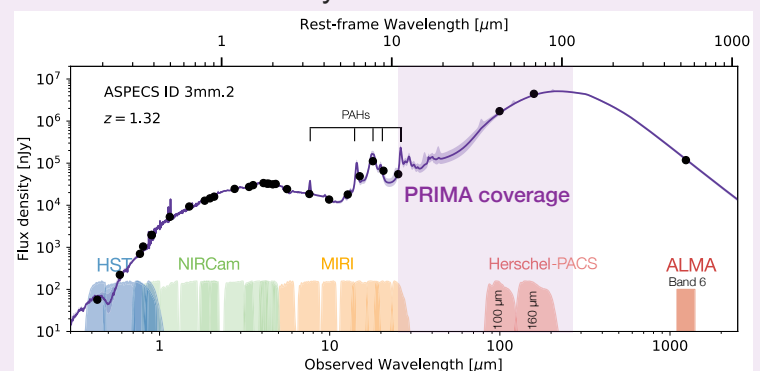


Figure: Unveiling galaxies beyond the local Universe with the power of multi-wavelength observations: Hubble, Webb (NIRCcam and MIRI), Herschel, and ALMA. PRIMA will complement these facilities. (Adapted from Shivaie & Boogaard 2024, A&A 691, L2)