PRIMA

The PRobe far-Infrared Mission for Astrophysics

PRIMA Overview

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NASA Goddard Space Flight Center
BAE SYSTEMS
ipac
cnes
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DLR
SRON
NG
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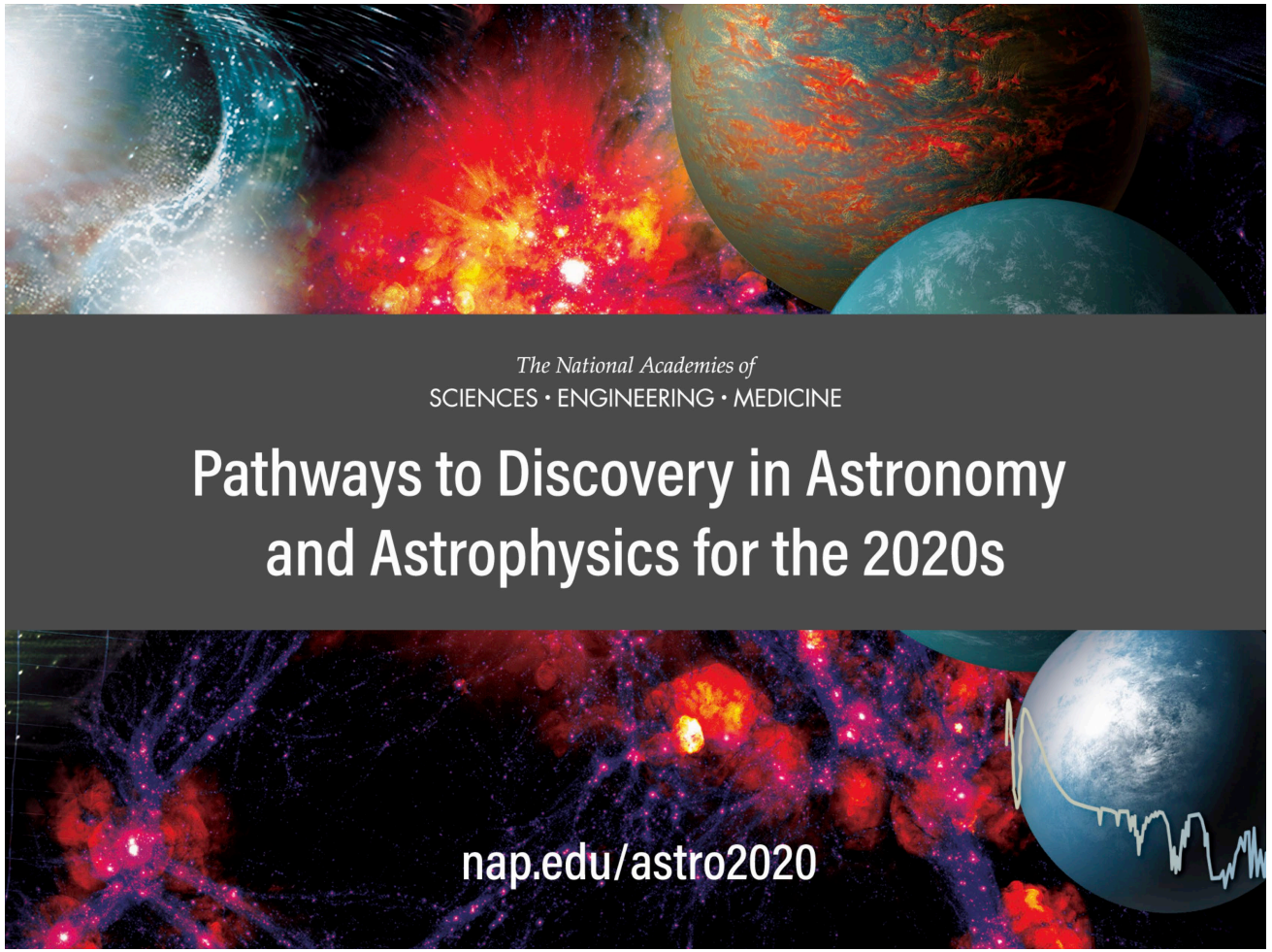
NASA Astrophysics Probes



Scope

Between MIDEX and Flagship: $1.5B

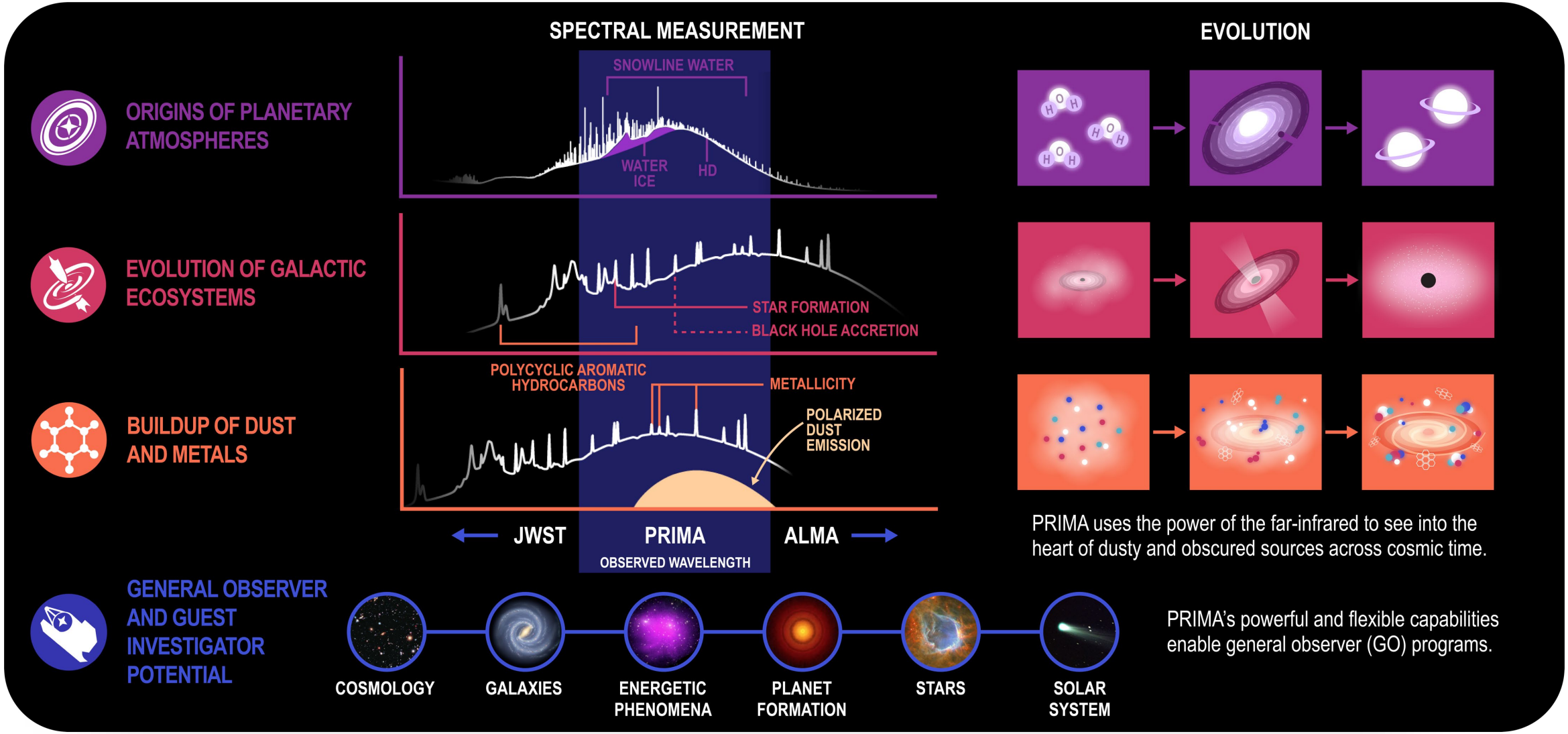
Opportunity

Far-IR or X-ray Probe

Timeline

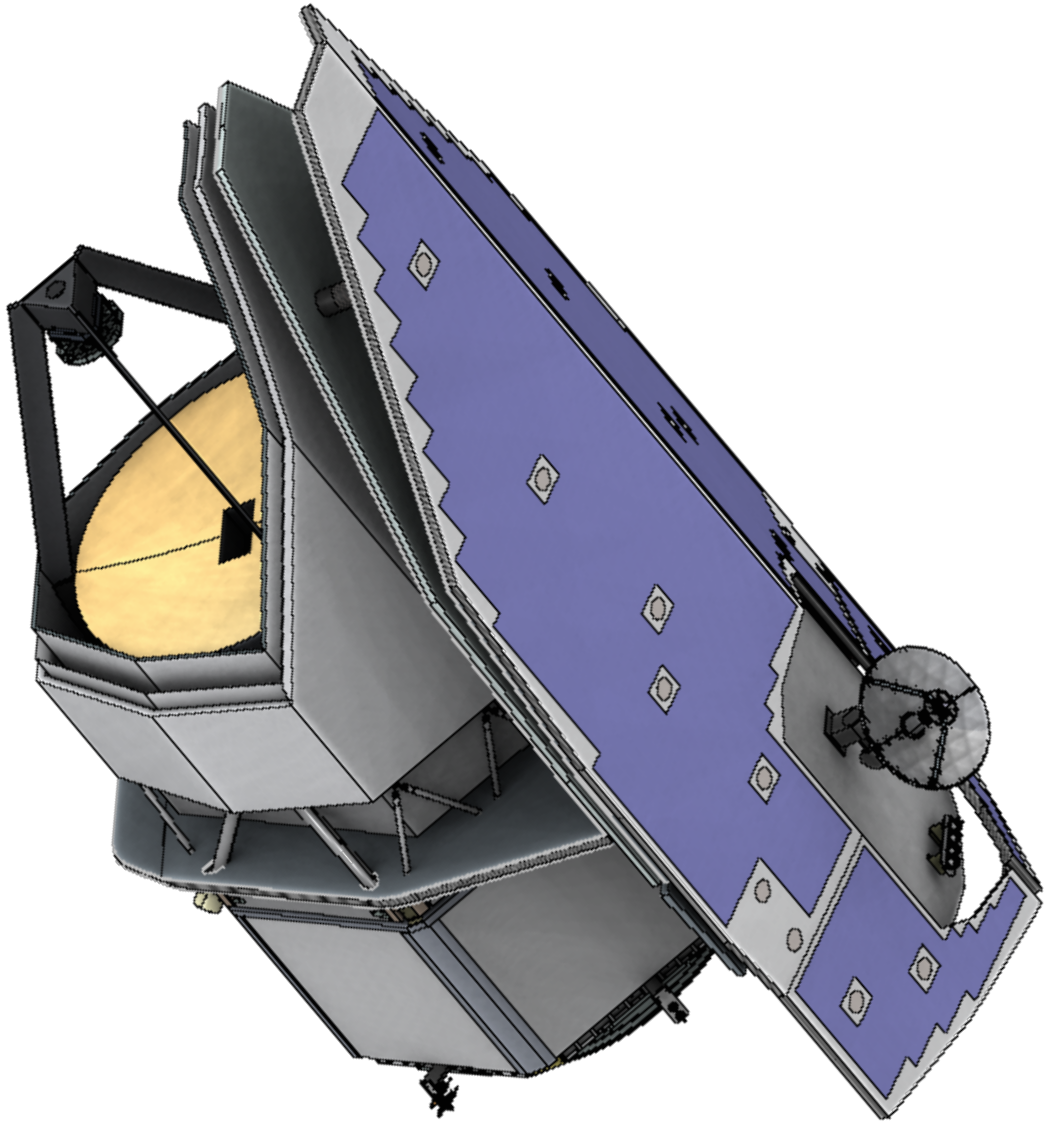
- Step 1 proposals: due 11/23
- Selection for Phase A: Last quarter 2024
- Concept Study reports: Due late 2025
- Selection for implementation: 2026
- Launch: 2032
- Community participation: *Ongoing!*

PRIMA Science



PRIMA Basic Facts

Observations	**75% GO, 25% PI (→ GI)**
Telescope	1.8 m, 4.5 Kelvin
PRIMAger (L. Ciesla)	Hyperspectral imaging 25-80 μm, R = 10 Imaging & polarimetry 91-261 μm, R = 4
FIRESS (M. Bradford)	Spectroscopy 24-235 μm, R > 85 High-Res mode R = 4,400 x (λ/112μm)
Detectors	Kinetic inductance detectors 11k total
Data	IPAC
Orbit	Earth-Sun L2
Launch	2032

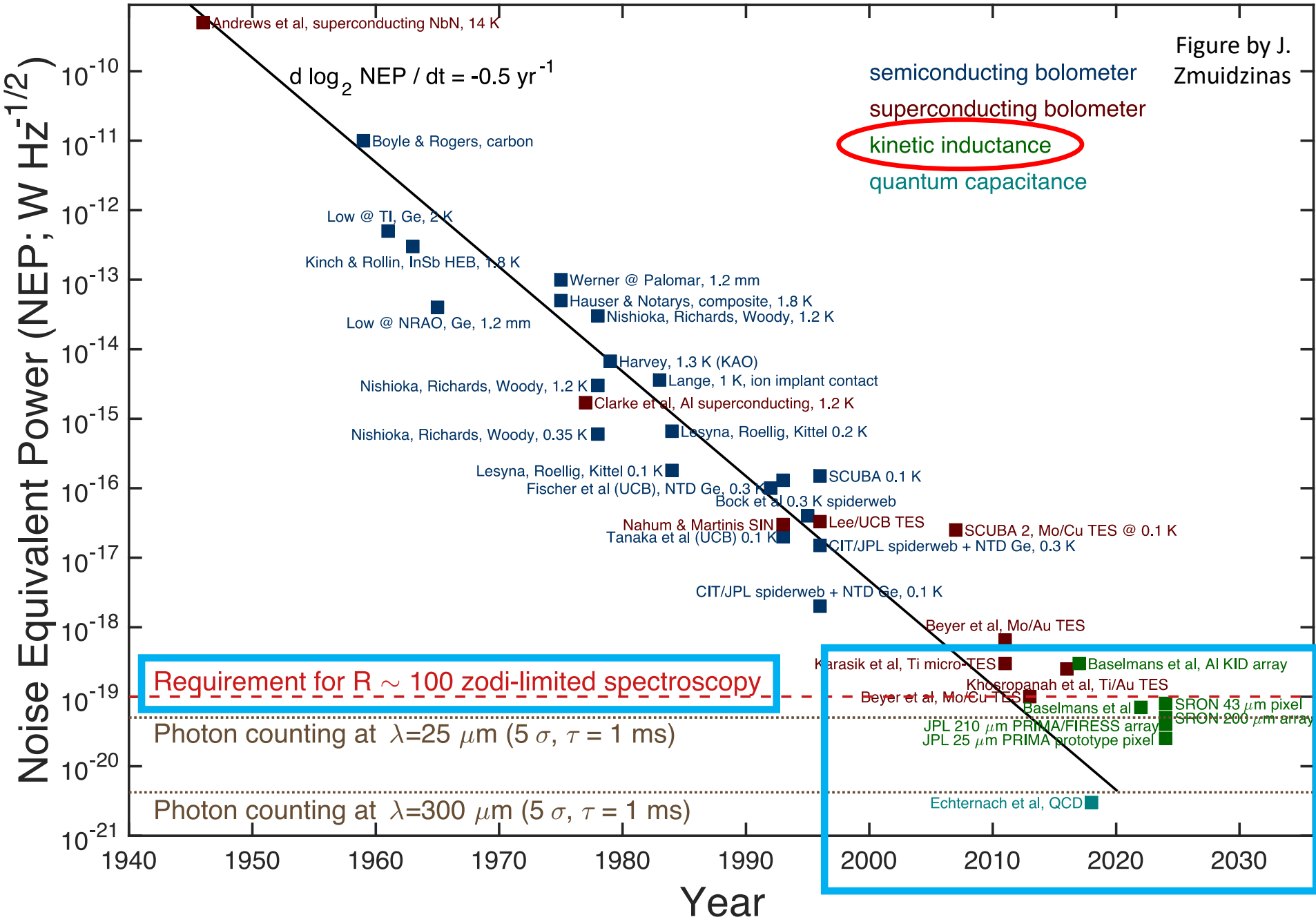


Why the Time is Now

Detector arrays have achieved unprecedented sensitivities and sizes

Sensitivities of far-IR detectors have doubled approx. every two years for 75 years!

Probe region of interest



Closing Thoughts

- Contact us if you have questions about sensitivity or observing calculations as you undertake your paper.
- If your science includes needs like dynamic range, include that in your papers so that we can consider them during Phase A.
- Community participation: *Ongoing!*
  - Talk to your colleagues about the electromagnetic spectrum on how far-infrared observations can enable their science.

Thank you to our JATIS guest editors: Naseem Rangwala and Matt Griffin!