2018 SAT Pre-Proposal Briefing

Tuesday Feb. 19, 2019

Hosted by HQ's Astrophysics Division and the Program Offices at GSFC and JPL

https://exoplanets.nasa.gov/exep/events/268/sat-2018-pre-proposal-briefing/

Agenda for this briefing

Start	Topic	Speaker
2:30 EST	Welcome and Introduction	SAT Program Officer, Nasser Barghouty
2:35	2018 SAT Solicitation - scope and requirements	SAT Program Officer
3:00	Technology Management and Resources Available to SAT Awardees	Program Technology Development Managers, Brendan Crill and Thai Pham
3:30	Q & A	SAT Program Officer
4:00	Adjourn	SAT Program Officer

HQ and Program Offices' participants in this briefing

Nasser Barghouty, NASA HQ	**SAT Program Officer**
Daniel Evans and Rita Sambruna, NASA HQ	*Program Scientist, Physics of the Cosmos Program (PCOS)*
Douglas Hudgins, NASA HQ	*Program Scientist, Exoplanet Exploration Program (ExEP)*
Mario Perez, NASA HQ	*Program Scientist, Cosmic Origins Program (COR)*
Thai Pham, NASA GSFC	**Technology Development Manager/PCOS and COR**
Brendan Crill, JPL	**Technology Development Manager/ExEP**

2018 SAT Solicitation
Scope & Requirements

The Strategic Astrophysics Technology (SAT) Program at ApD

- In 2009 NASA's ApD established the Strategic Astrophysics Technology (SAT) program to focus on the **maturation of key technologies** for *strategic space astrophysics missions*
- Strategic missions are non-competed missions, normally prioritized and recommended by ApD's advisory process (e.g., National Academy of Sciences in the Decadal Surveys)
- The SAT program is strategic in fostering progress on the implementation of the Astrophysics Decadal Survey science and mission recommendations

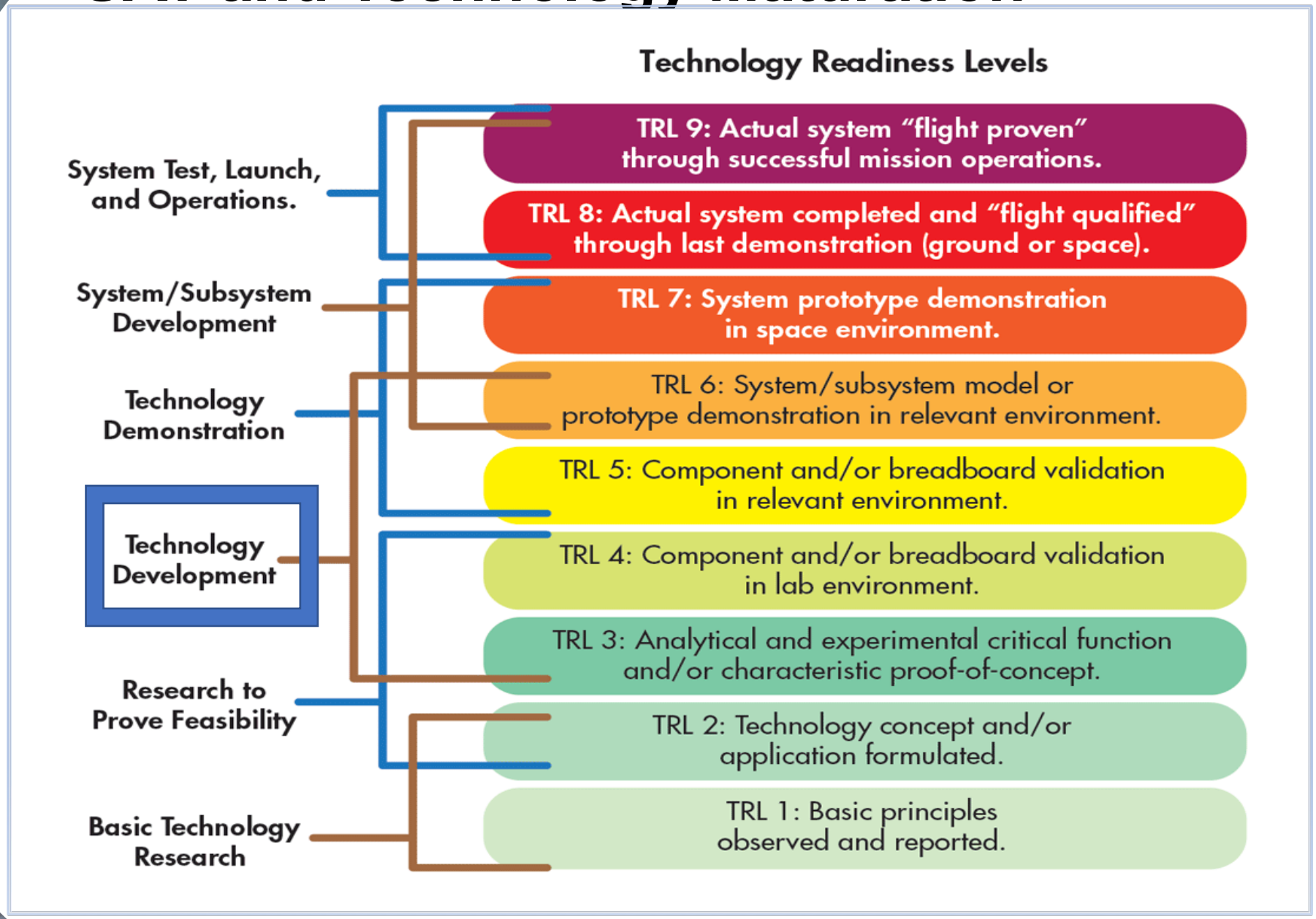
SAT and Technology Maturation

- The SAT program is **not** intended to support "basic" research into new technologies or demonstration of their feasibility (TRL 1-3), **nor** is it intended to support flight qualification of mature technologies (TRL 7-9)

- The SAT Program is designed to support the maturation of technologies whose feasibility has already been demonstrated (i.e., TRL 3), to the point where they can be incorporated into NASA flight missions (TRL 6-7)

- Science and technology drivers for SAT stem from the ApD's PCOS, COR, and ExEP thematic emphases

SAT and Technology Maturation



Some SAT Statistics – last round

(ROSES-17; Reviewed in FY18; funding began with FY19)

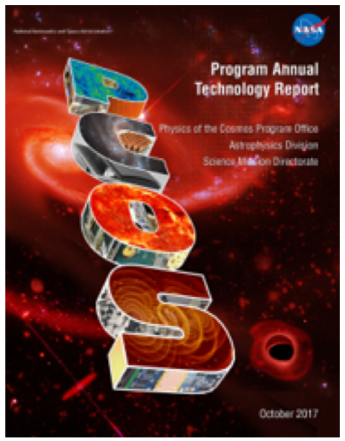
25 proposals submitted (11 TCOR; 10 TDEM; 4 TPCOS)
11 from NASA centers; 9 academia; 3 OGA; and 2 industry
Total first-year funding request = **$13.8 M**
Available first-year funding = **$6.0 M** ($1.5 M higher than ROSES-16)
Number of proposals selected = **11** (5 TCOR; 3 TDEM; 3 TPCOS), 5 from NASA centers; 3 academia; 3 OGA
Average first-year award = **$515 K**
Selection rate = **44%**

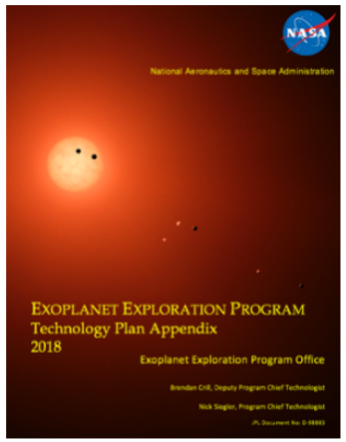
SAT vs. APRA and Technology Development

SAT	APRA
Technology maturation (only)	Technology inception (mostly)
3 ≤ TRL ≤ 6	No minimum (entrance) TRL
mature for infusion in space missions	New concept or application
Work plan, schedule, and milestones must lead to or enable realistic TRL assessment	Less stringent requirements on path to TRL assessment
Successful SAT teams tend to have hardware building capabilities	Smaller teams; PI- and capability centric
Large teams w/ bigger budgets	Smaller teams w/ smaller budgets
Duration: 1-3 yrs	1-5 yrs

2018 SAT Requirements (§1.2)

- Close **alignment** with program priorities by addressing the prioritized **technology gaps** published in:





- Collected from **HabEx**, **Lynx**, **LUVOIR,** and **Origins** study teams as well as from the general community

2018 SAT Requirements (§1.2)

All SAT proposals are required to:

- **Identify** the proposed technology development with **a prioritized technology gap**
  - either enabling or enhancing technologies are allowed
- To the extent possible, **associate** the development with a science theme (PCOS, COR, or ExEP)
- Present a convincing case that the subject technology falls in the **3 ≤ TRL < 6** range
- **Specify the expected TRL at conclusion of proposed work**, with clear description of proposed maturation path
  - Not required to advance a full TRL step
  - Must provide quantitative description of expected advancement from current state-of-the-art
- Provide a detailed and realistic work plan, schedule, and milestones

2018 SAT Specific Technology Exclusions (§1.3)

- **LISA** technologies
- X-ray technologies for **Athena**
- **Starshade** technologies
- Coronagraph technologies for **WFIRST**
- Technologies for **competed missions**
- **Normal-incidence (large) mirror telescopes**' test bed technologies and studies
- Proposals for the development or maintenance of testbeds/tools that reproduce existing ExEP infrastructure
- Dedicated **suborbital flights** for technology tests and/or demonstrations

2018 SAT Reporting (§2)

- All awardees are expected to submit annual progress reports to the NSSC with copies to ApD'S program officers

  plus,

- **theme dependent reporting:**

  ExEP, PCOS/COR and have their own processes for tracking and documenting technology advancement

  These will be described in greater detail by the respective program office technology managers

2018 SAT Key Information (§3)

(To be reviewed in FY19 and funded in FY20)

Expected program budget for first year of new awards:	**About $6 M**
Maximum duration of awards:	**3 yrs; shorter than 2 yrs OK but not encouraged**
Due dates:	**NOI February 27; proposal March 29** **Note that NOIs are mandatory, and PI and title cannot be changed after submission**
Start date:	**January 1, 2020 (fiscal year start for CS)**
Page limit for the central Science-Technical-Management section of proposal:	15 pp; see also Table 1 of ROSES and the *NASA Guidebook for Proposers*
Relevance:	This program is relevant to the Astrophysics questions and goals in the NASA Science Plan. Proposals that are relevant to this program are, by definition, relevant to NASA
General information and overview of this solicitation:	See the *ROSES Summary of Solicitation*

2018 SAT Key Information (§3)

Detailed instructions for the preparation and submission of proposals:	see Section I(g) Order of Precedence and Table 1 of the ROSES *Summary of Solicitation* and the *NASA Guidebook for Proposers*
Submission medium:	Electronic proposal submission is required; no hard copy is required or permitted. See also Section IV of the *ROSES Summary of Solicitation* and the *NASA Guidebook for Proposers*.
Web site for submission of proposal via NSPIRES:	http://nspires.nasaprs.com/ (help desk available at nspires-help@nasaprs.com or (202) 479-9376)
Web site for submission of proposal via Grants.gov	http://grants.gov (help desk available at support@grants.gov or (800) 518-4726)
Page limit for the central Science-Technical-Management section of proposal:	15 pp; see also Table 1 of ROSES and the *NASA Guidebook for Proposers*

2018 SAT Pre-Proposal Briefing: Technology Management

2018 SAT Pre-Proposal Briefing: Contacts

POCs at HQ and Program Offices

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