



Research Opportunities in Space and Earth Science (ROSES)

Agenda

- Intro/philosophy
- What is ROSES
 - Structure
 - precedence
- About the Calls for Proposals
 - Required elements/templates etc.
 - NOI vs. 2-Step, No Due Date
 - Summary Table of Key Information
- How to Define the Question
- How to Build a Team
- Some Web Resources
- How (not) to Write/Revise a Proposal
- Max's personal idiosyncratic advice

Intro/philosophy

- I will include far too many slides in this talk for the time allotted.
- Moreover, there will be even more slides in backup after the black ending slide.
- This is in hopes that these slides may be more useful if you need to refer to them later.
- However, that means I'll pass over some very quickly.
- Later, if you need to write/submit a ROSES proposal or run a ROSES programs and you have questions don't hesitate to ask me. You may always write to me or to SARA@nasa.gov
- Slides and a recording of this talk will be posted somewhere, maybe in the SARA library and/or on the ORAU NPP page.

What is ROSES

"ROSES" = Research Opportunities in Space and Earth Sciences, is an "omnibus" solicitation, which means many topics, many due dates, and the default rules (about all the boring stuff like fonts, policies, etc.) is (mostly) relegated to the "[ROSES-2022 Summary of Solicitation](#)", which may be found on the ROSES-22 landing web page at:

<http://solicitation.nasaprs.com/ROSES2022>

Read the Summary once and then focus on the science or technology in the short call.

Parts of ROSES You Need to Know

[Table 1](#) (Check list for proposers)

[Table 2](#) (Due dates by date)

[Table 3](#) (Due dates by Division)

[Summary of Solicitation](#) (Blah Blah)

Division Research Overview (A.1, B.1...)

and...

The program element(s) to which you will propose (the actual call for proposals, with the technical info) - this is the most important.

ROSES changes over the course of the year

Structure and Order of precedence

- Read the program element, and do what it says
- If there is something not addressed in the element, do what overview says
- If there is something not addressed in the overview do what the ROSES SoS says
- If there is something not addressed in the ROSES SoS do what the guidebook says.
- The call for proposals takes precedence over everything else.

Table 1 of ROSES

[Table 1 of ROSES](#) is a check list of the parts of the proposal, listing whether various components are excluded, optional, or mandatory, page limits etc., and here is an excerpt as an example

References: Third component of proposal		
	Length	No page limit
	Excluded	No references to documents unavailable to reviewers. See https://science.nasa.gov/researchers/sara/faqs#19 .
Data Management Plan (DMP) fourth component of proposal		
	Length	2 pages
	Required	Unless otherwise stated, a DMP or explanation of why it is not needed must be provided in this section.
	Content	See Section II(c) and the DMP FAQ for content and templates.

ROSES Page on NSPIRES

NSPIRES - Solicitations Summar X +

https://solicitation.nasaprs.com/ROSES2022

Search

raptor NSSC GrantStatus Google ROSES-2021 Table 2 ROSES21 Blog ROSES-2022 Blog FAQs NoDD Guidebook/Grants P...

NSPIRES Home

Research Opportunities in Space and Earth Sciences 2022 (ROSES-2022)

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<https://solicitation.nasaprs.com/ROSES2022>

Number: NNH22ZDA001N Directorate: Science Mission Directorate NASA Research Announcement

▼ Dates

Label	Date	Options
Release	Feb 14, 2022	
Close	Mar 29, 2023	

Notices

No notice available.

- ▼ Documents
- ### Announcement Documents
- Title
- > [DUE DATES: Table 2 lists and links to all program elements in due date order as amended \(.HTML\)](#)
 - > [DUE DATES: Table 3 lists and links to all program elements in appendix order as amended \(.HTML\)](#)
 - > [Table 1 ROSES-22 Proposal Checklist \(also included in Summary of Solicitation and Full ROSES documents\) \(.PDF\)](#)
 - > [ROSES-2022 Summary of Solicitation \(SoS\) \(.PDF\)](#)
 - > [Full ROSES-2022 with SoS, all tables, and all program element appendices \(.PDF\)](#)

- ### Other Documents
- Title
- > [Link to page hosting the NASA Guidebook for Proposers](#)

ROSES Summary of Solicitation and Table 1 of ROSES are downloadable as PDF files

Tables 2 and 3 of ROSES

The lists of "Program elements" (calls for proposals) in ROSES may be found in Tables [2](#) and [3](#) of ROSES, web pages that list them either by date or by "Division" i.e., A = Earth Science, B = Heliophysics etc.

Table 2 = due dates listed chronologically is at <https://solicitation.nasaprs.com/ROSES2022table2>

Table 3 = due dates by division and number is at <https://solicitation.nasaprs.com/ROSES2022table3>

Table 3 of ROSES (by Division/Topic)

Appendix	Program element title and hypertext link	NOI/Step-1	Prop/Step-2
A.1	Earth Science Research Overview	N/A	N/A
A.2	Land-Cover/Land-Use Change	04/14/2022 (Step-1)	07/14/2022 (Step-2)
A.3	Ocean Biology and Biogeochemistry	Not Solicited This Year	
A.4	Scoping Studies for the Next Terrestrial Ecology Field Campaign	09/16/2022	11/18/2022
A.5	Carbon Cycle Science	Not Solicited This Year	
A.6	Carbon Monitoring System: Continuing Prototype Product Development	08/02/2022	09/30/2022
A.7	Biodiversity	Not Solicited This Year	
A.8	Physical Oceanography	04/22/2022	05/25/2022
A.9	Ocean Salinity Science Team	Not Solicited This Year	
A.10	Sea Level Change Science Team	Not Solicited This Year	
A.11	Surface Water and Ocean Topography (SWOT) Science Team	Not Solicited This Year	
A.12	Ocean Surface Topography Science Team	Not Solicited This Year	
A.13	Ocean Vector Winds Science Team	09/08/2022	10/06/2022
A.14	Modeling, Analysis, and Prediction	Not Solicited This Year	
A.15	Cryospheric Science	Not Solicited This Year	
A.16	Atmospheric Composition: Upper Atmospheric Composition Observations	Not Solicited This Year	
A.17	Atmospheric Composition: Radiation Sciences Program	Not Solicited This Year	
A.18	Aura Science Team and Atmospheric Composition Modeling and Analysis Program	N/A	08/19/2022
A.19	Airborne and Satellite Investigation of Asian Air Quality	09/01/2022	10/04/2022

← Let's click on A.6
CMS as an example

A.6 Carbon Monitoring System: Continuing Prototype Product Development

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Number:
NNH22ZDA001N-CMS

Directorate:
Science Mission Directorate

Type:
NASA Research Announcement

▼ Dates

Label	Date	Option
Release	Feb 14, 2022	
Close	Sep 30, 2022	

Notices

- The description of the specific proposal opportunity on this page is contained in the document 'A.6 Carbon Monitoring System: Continuing Prototype Product Development'. The document 'A.1 Earth Science Research Program Overview' describes research activities within the NASA science division that is managing the specific proposal opportunity on this page and may impose requirements upon proposals submitted to this program element. The document 'Summary of Solicitation' describes the common requirements for all ROSES-2022 proposal opportunities. The document 'Table 1' contains the proposal check list from the Summary of Solicitation. The documents 'Table 2' and 'Table 3' contain the list of all proposal opportunities and their due dates, sort by (full Step-2) proposal due date or appendix number, respectively. All of these documents are kept up to date and incorporate amendments, clarifications, and corrections in a clearly identifiable manner.

Again, let's click on A.6 CMS as an example ->

- ▼ Documents
- Title
- > [DUE DATES: Table 2 lists and links to all program elements in due date order as amended \(.HTML\)](#)
 - > [DUE DATES: Table 3 lists and links to all program elements in appendix order as amended \(.HTML\)](#)
 - > [Table 1 ROSES-22 Proposal Checklist \(also included in Summary of Solicitation and Full ROSES documents\) \(.PDF\)](#)
 - > [ROSES-2022 Summary of Solicitation \(SoS\) \(.PDF\)](#)
 - > [Full ROSES-2022 with SoS, all tables, and all program element appendices as amended and clarified May 17, 2022 \(.PDF\)](#)
 - > [A.1 Earth Science Research Program Overview \(.pdf\)](#)
 - > [A.6 Carbon Monitoring System: Continuing Prototype Product Development \(.PDF\)](#)
- Other Documents
- Title
- > [Link to page hosting the NASA Guidebook for Proposers](#)

A.6 CARBON MONITORING SYSTEM: CONTINUING PROTOTYPE PRODUCT DEVELOPMENT

NOTICE: Proposers must use [the Earth Science Division's standard template for work effort and current and pending support](#).

1. Scope of Program

The NASA Carbon Monitoring System (CMS) is a forward-looking initiative designed to make significant contributions to characterizing, quantifying, understanding, and predicting the evolution of global carbon sources, sinks, and fluxes through improved monitoring of terrestrial and aquatic carbon stocks and fluxes. Initially implemented in response to language in NASA's 2010 Congressional Appropriation, this program is now considered to be an important part of NASA's Carbon Cycle and Ecosystem focus area, and as presently implemented, supports research and coordinates projects for the development of prototype carbon monitoring systems.

NASA's approach toward a carbon monitoring system has emphasized exploitation of current and future satellite remote sensing resources, computational capabilities, scientific knowledge, airborne science capabilities, and end-to-end system expertise that are major strengths of the NASA Earth Science program. Significant effort is being devoted to rigorous evaluation of the carbon monitoring products being generated, as well as to the characterization and quantification of errors and uncertainties in those products. The initial emphasis has been on regional, national, and global satellite-based carbon monitoring products relevant to national needs for completely transparent carbon and terrestrial biomass inventory processes that provide statistical precision and accuracy with geospatially explicit associated attribute data. NASA's approach considers data and expertise that are the domain of other U.S. Government agencies and anticipates continuing close communication and/or partnerships with those agencies and their scientific and technical experts as U.S. national efforts toward

4. Summary Table of Key Information

Expected program budget for first year of new awards	\$4M
Number of new awards pending adequate proposals of merit	15
Maximum duration of awards	3 years
Due date for Notice of Intent	See Tables 2 and 3 of this ROSES NRA
Due date for proposals	See Tables 2 and 3 of this ROSES NRA
Planning start date	January 2023
Page limit for the central Science/Technical/Management section of proposal	15 pages; see also Table 1 of the <i>ROSES Summary of Solicitation</i> and the <i>NASA Guidebook for Proposers</i> .

...

Points of contact concerning this program, all of whom share the following postal address:	Michael J. Falkowski Telephone: (202) 358-1431 Email: Michael.Falkowski@nasa.gov
Earth Science Division Science Mission Directorate NASA Headquarters Washington, DC 20546-0001	Kenneth W. Jucks Telephone: 202-358-0476 Email: Kenneth.W.Jucks@nasa.gov
	Laura Lorenzoni Telephone: 202-358-0917 Email: laura.lorenzoni@nasa.gov

Table 2 of ROSES (sorted by due date)

Appendix	Program element title and hypertext link	NOI/Step-1	Prop/Step-2
A.20	Terrestrial Hydrology	08/11/2022	09/15/2022
D.5	Neil Gehrels Swift Observatory General Investigator - Cycle 19	N/A	09/22/2022 (Phase-1 via ARK RPS)
A.6	Carbon Monitoring System: Continuing Prototype Product Development	08/02/2022	09/30/2022
A.19	Airborne and Satellite Investigation of Asian Air Quality (ASIA-AQ)	09/01/2022	10/04/2022
A.13	Ocean Vector Winds Science Team	NOIs Optional →	
A.32	Studies with ICESat-2	09/14/2022	10/12/2022
B.14	Heliophysics Early Career Investigator Program	07/28/2022 (Step-1)	10/18/2022 (Step-2)
C.11	Discovery Data Analysis	NOI Mandatory →	
C.7	New Frontiers Data Analysis Program	09/01/2022 (Step-1)	11/03/2022 (Step-2)
C.9	Mars Data Analysis	09/07/2022 (Step-1)	11/15/2022 (Step-2)
A.28	Interdisciplinary Research in Earth Science	10/14/2022	11/16/2022
A.4	Scoping Studies for the Next Terrestrial Ecology Field Campaign	09/16/2022	11/18/2022
C.18	Planetary Science Early Career Award	N/A	12/08/2022

Step-1s are always Mandatory →

If the NOI column says N/A then NOI is not requested at all

NOI vs Step-1 Proposal

Whereas an NOI is submitted by you, so it may be dashed off and submitted the evening that its due, a proposal is submitted by your organization, not by you, the Principal Investigator (PI).

The PI "releases" a proposal to the organization, but it's an authorized official at the organization who submits a proposal, even a Step-1. Even for a Step-1, follow your organizations rules about how far in advance a proposal must be released to org. The proposal submission cut off is typically 11:59 pm eastern time on the due date, but that's really just for Hawaii. If you're on the mainland and release your proposal to your organization >5 pm local time it may not get submitted.

No Due Date

14 programs accept proposals at any time without any preliminary statement such as an NOI or Step-1 proposal.

Technically, there are two types: 1) No Due Date (NoDD) programs that will review proposals with a cadence that will depend on the rate at which proposals are submitted and 2) programs that will review quarterly. NoDD

Programs: A.24 RRNES, A.51 Applications-Oriented Augmentations for Research and Analysis, C.2 EW, C.3 SSW, C.4 PDAR, C.5 Exobio, C.6 SSO, C.12 PICASSO, C.16 LARS. F.2 TWSC and F.8 SOSS. Quarterly review programs: B.12 HDEE, B.15 HITS, and B.20 HTM. See the text of these program elements, the Research Overviews (A.1, B.1, C.1 etc.) and

<https://science.nasa.gov/researchers/NoDD>

Changes after release

There are a few ways to keep track of changes after release:

- Look for red text HTML Tables [2](#) & [3](#) of ROSES
- Subscribe to the SMD NSPIRES mailing list(s)
- [Subscribe to the Google Calendars](#)
- [ROSES-22 Blog](#) on the SARA web page
- See extra slides at the end for details

Special Requirements with Submission

The call likely requires:

- A Data Management Plan

The call may require:

- A Software Development Plan
- The use of specific templates for DMP, Table of Work Effort, Current and Pending Support...
- An Inclusion Plan
- A Separate explicit statement of relevance
- Special instructions for Dual-anonymous peer review

Speaking of Dual-Anonymous Peer Review (DAPR)...

Dual-anonymous peer review

The dual-anonymous peer review (DAPR) process is one in which, not only are proposers unaware of the identity the reviewers (normal), but the reviewers are not told the identity of the proposers until after the evaluation of the anonymized proposals. For these programs there are special instructions for proposal preparation in the call for proposals, in a file under other documents on the NSPIRES page for DAPR calls, and at

<https://science.nasa.gov/researchers/dual-anonymous-peer-review>

How to Define the Questions

- Choose projects that you find interesting.
- Ideally, something that would:
 - Change/correct existing assumptions
 - Answer an outstanding question
 - Resolve a debate in the scientific community
 - Discover something new / note the question that everyone should have been asking
 - Develop/improve new hardware to detect/measure/explore better or under challenging conditions
 - Develop/improve a method as above or that will make many more efficient
- Talk to your friends, mentors
- See what's been published, presented, funded
- See what committees, roadmaps etc. say

How to Build the Team

- Learn what's out there:
 - Read the literature
 - listen to talks
 - Review awards
 - Give talks, publish papers
- Don't be afraid to approach people,
- Don't be afraid to just contribute (as opp. to lead),
- Find yourself mentors,
- List the methods/skills/resources you will need,
- Don't be afraid share authorship, give credit,
- Compliment/praise (deservedly) often,
- Improve your communication

See what won in the past: program selections

If there is a particular program of interest to you, simply visit the NSPIRES page of that program element from past years and look under "Selections"

C.15 Planetary Protection Research

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Number: **NNH21ZDA001N-PPR** Directorate: **Science Mission Directorate** Type: **NASA Research Announcement**

▼ Dates

Label	↑↓ Date	↓ Option↑
Release	Feb 12, 2021	
PPR21 NOIs Due	Apr 12, 2021	
PPR21 Proposals Due	May 13, 2021	
Selection	Oct 15, 2021	

Notices

- The description of the specific proposal opportunity on this page is contained in the document 'C.15 Planetary Protection Research'. The document 'C.1 Planetary Science Research Program Overview' describes research activities within the NASA science division that is managing the specific proposal opportunity on this page and may impose requirements upon proposals submitted to this program element. The document 'Summary of Solicitation' describes the common requirements for all ROSES-2021 proposal opportunities. The document 'Table 1' contains the proposal check list from the Summary of Solicitation. The documents 'Table 2' and 'Table 3' contain the list of all proposal opportunities and their due dates, sorted by (Step-2) proposal due date or appendix number, respectively. All of these documents are kept up to date and incorporate amendments, clarifications, and corrections in a clearly identifiable manner.



▼ Documents

Announcement Documents

Title

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- > [DUE DATES: Table 3 lists and links to all program elements in appendix order as amended \(.HTML\)](#)
- > [Table 1: ROSES-21 Checklist for Proposers \(also part of the Summary of Solicitation and Full ROSES documents\) \(.PDF\)](#)
- > [ROSES 2021 Summary of Solicitation \(.PDF\)](#)
- > [FULL ROSES 2021 - the complete solicitation as amended and clarified January 31, 2022 \(.PDF\)](#)
- > [C.1 Planetary Science Research Program Overview \(.PDF\)](#)
- > [C.15 Planetary Protection Research \(.PDF\)](#)

Selections

Title

- [Planetary Protection Research 2021 Selections](#) 22

See what won in the past

But if you don't know of a particular program, you may search the NSSC grant status database to get a list of grants (only) based on key word from the title, university, PI etc., but this is grants only.

<https://www.nssc.nasa.gov/grantstatus>

Useful Resources

SARA Web Page <https://sara.nasa.gov>

- Talks on Proposal Writing ([See Library](#))
- Points of Contact for Programs ([PO List](#))
- Selection Statistics ([Grant Stats](#))
- Volunteer reviewer forms ([Landing page](#))
- FAQs on [ROSES](#), [DMPs](#), [ROSES Budgets](#), [DAPR](#), [NoDD](#), etc.
- Boring Policies ([See Library](#))

Links

- [Office of Chief Scientist page on Scientific Integrity](#)
- [Dual-Anonymous Peer Review \(DAPR\) Web Page](#)
- [Link to 2020 Science Plan and other documents](#)
- [What's new in ROSES-2022 \(March 2, 2022 Ames Research Center\)](#)
- [Slides from What's New in ROSES-2022 \(PPTX ~6.5 MB\)](#)
- [Proposal Writing Seminar at GSFC February 2022](#) ← **New!**
- [Proposal writing 101 presentation \(Adobe Connect Recording\)](#)
<https://www.youtube.com/watch?v=R56T457HdDI> (March 2020 Ames Research Center)
- [Link to Max's proposal writing 101](#)
- [Slides from Proposal writing 101 presentation \(PPTX ~8.5 MB\)](#)
- [The Planetary Data System Data Release calendar](#) ↗
- [Link to slides for new proposers to NASA. Presented at the \(OSTEM Sponsored\) C Proposal Development Workshop](#) ↗
- [Christina Richey tips on proposal writing:](#)



Link to Christina Richey's proposal writing talk on Youtube



You →
Are
here

For Researchers

- > [COVID and Awards](#)
- > [SMD Community Town Hall Meetings](#)
- > [Contact SARA](#)
- > [Advisory Committees](#)
- > [ROSES FAQ](#)
- > [Dual-Anonymous Peer Review](#)
- > [Grant Solicitations](#)
- > [Announcement of Opportunity](#)
- > [Grant Stats](#)
- > [Program Officers List](#)
- > [How To Guide](#)
- > [Library and Useful Links](#)
- > [Volunteer for Review Panels](#)
- > [Data & Pubs Rules](#)
- > [New PI Resources](#)

How to (not) Write a Proposal

One of my mentors, the one who first arranged for me to serve on a review panel, used to say that there is no better way to learn how to not write a proposal than to serve on a review panel. It won't really teach you how to write a winning proposal, but it will teach you what not to do.

Sign up at

<https://science.nasa.gov/researchers/volunteer-review-panels>



We are currently seeking reviewers for:

- [Heliophysics Guest investigators \(ROSES B.4\)](#)
- [Emerging Worlds \(ROSES C.2\)](#)
- [Solar System Workings \(ROSES C.3\)](#)
- [Planetary Data Archiving, Restoration, and Tools \(ROSES C.4\)](#)
- [Exobiology \(ROSES C.5\)](#)
- [Solar System Observations \(ROSES C.6\)](#)
- [Cassini Data Analysis Program \(ROSES C.10\)](#)
- [Planetary Instrument Concepts for the Advancement of Solar System Observations \(PICASSO\) \(ROSES C.12\)](#)
- [MatISSE and C.22 DALI \(high-TRL planetary instrument programs\) \(ROSES C.13\)](#)
- [Planetary Protection Research \(ROSES C.15\)](#)
- [Astrophysics Data Analysis Program \(Appendix D.2 of the annual ROSES NRA\)](#)
- [Astrophysics Research and Analysis \(ROSES program element D.3\)](#)
- [Exoplanet Research Program \(ROSES F.3\)](#)
- [Earth Surface and Interior and Space Geodesy Programs](#)
- [ECOSTRESS Science Team](#)
- [The Physical Oceanography Program \(PO\)](#)
- [Space Biology](#)

You are here →

- > [No Due Date Program](#)
- > [ROSES Budget Reda](#)
- > [ROSES FAQ](#)
- > [Volunteer to Review Proposals](#)
- > [Work-Life Balance](#)
- > [Contact SARA](#)

<https://science.nasa.gov/researchers/volunteer-review-panels>

Please provide your last name: *

Please provide your email address: *

Are you volunteering to serve as a panelist, an executive secretary, or an external reviewer? The executive secretary role is typically filled by senior graduate students or early postdocs that have not previously served on a panel. External reviewers are typically asked to submit between one and three mail-in reviews but do not attend the panel review itself. *

- Panelist
- Executive secretary (Typically filled by senior graduate students or early postdocs that have not previously served on a panel.)
- External reviewer (Typically asked to submit between one and three mail-in reviews but do not attend the panel review itself.)

Please specify the topics of study in your area(s) of expertise. You can select multiple options. Choose "other" to add something we have missed or to further describe your expertise in one of the listed areas, please describe in the comment box below. *

- Plant Biology
- Animal Biology (Vertebrates)
- Animal Biology (Invertebrates)
- Microbiology
- Molecular Biology
- Biochemistry
- Omics
- Bioinformatics/Computation Biology
- Biostatistics
- Radiation Biology
- Other (please specify in the box below)

Volunteer to serve on a review panel, continued. Space Biology as an example.

Max's personal idiosyncratic advice: writing

- Don't annoy the reviewer.
- Don't just write a proposal that can be understood, write a proposal that cannot be misunderstood.
- Use figures and tables.
- Some things are worth saying more than once
- **Or maybe emphasized with bold?**
- Some things are worth saying more than once, but it's tough to make the space to do that since there is never enough room in a page-limited proposal.
- Have your proposal reviewed by others and then make changes based on what they say. This is where that community helps. They need not be experts.
- You don't have to make the changes they suggested, but you must make changes.

So, you just got back your review and...

- As we said with the comments prior to submission, one would be a fool not to make changes in response to the comments from the peer review.
- You need not do what they say, but you must do something. For example,
- Often the weakness is about lack of detail, but you have no more room, so something must go. Handling that trade off is the art of proposal writing.
- The solution may be deletion rather than more detail.
- The inherent uncertainty in the measurement of Merit is ~ 0.5 point (10-20%).

Thank you

Questions?

If you think of a question later, you may always send it to SARA@nasa.gov

Back up slides follow

Links for Later

- What's new in ROSES: Section I(d) of the ROSES Summary of Solicitation and FAQ #1 at <http://science.nasa.gov/researchers/sara/faqs>
- Budget FAQ: <http://science.nasa.gov/researchers/sara/how-to-guide/nspires-CSlabor/>
- Data management plans FAQ: <http://science.nasa.gov/researchers/sara/faqs/dmp-faq-roses/>
- Blog of ROSES amendments: <http://science.nasa.gov/researchers/sara/grant-solicitations/roses-2022/>
- Instructions for Google due date calendar and other things: <https://science.nasa.gov/researchers/sara/library-and-useful-links>
- <https://www.nasa.gov/open/researchaccess/pubspace>

Inclusion Plans

Last year, 3 programs required a 2-page "Inclusion Plan" see [the APD White Paper on this topic](#).

New [Section IV\(e\)ii of the ROSES SoS](#) on this topic.

This year the following ROSES program elements will require an Inclusion Plan: A.23 ESI, A.28 IDS, B.22 Space Weather Centers of Excellence (SWxCs), D.3 APRA, D.7 SAT, D.12 TCAN, D.13 Pioneers, D.15 LPS, D.16 Astrophysics Decadal Survey Precursor Science (ADSPS), and F.10 and F.11, the PRISM calls.

The assessment of this plan will not change adjectival ratings or selection recommendations. You will get your award, that's guaranteed, but a satisfactory inclusion plan is a prerequisite for the grant being made. This is analogous to how we handled DMPs.

A.23 EARTH SURFACE AND INTERIOR

NOTICE: This program element is participating in the Inclusion Plan Pilot Program, see Section 3.3. This Inclusion Plan will not be part of the adjectival ratings nor selection recommendations for this opportunity.

This program element requires use of the Earth Science Division templates for reporting Work Effort and Current and Pending Support, see Section 3.3.

1. Scope of Program

NASA's Earth Surface and Interior (ESI) focus area (<http://science.nasa.gov/earth-science/focus-areas/surface-and-interior>) supports research and analysis of solid-Earth processes and properties from crust to core. The overarching goal of ESI is to use NASA's unique capabilities and observational resources to better understand the structure and dynamics of the core, mantle, and lithosphere, and interactions between these processes and Earth's fluid envelopes.

3.3 Inclusion Plan

An Inclusion Plan, not to exceed two pages and immediately following the Data Management Plan, is required in all proposals...Proposers are encouraged to:

- identify barriers to creating a positive and inclusive working environment for those carrying out the proposed investigation;
- address ways in which the investigation team will work against these barriers to create and sustain such an environment, such as fostering communication and openness amongst the team, involving under-represented groups in proposal activities, etc.;
- discuss contributions the proposed investigation will make to the training and development of a diverse and inclusive scientific workforce, and clearly define roles and responsibilities for all team members towards pursuing those goals;
- consider involvement of organizations and institutions that support and serve under-represented groups including, but not limited to, Historically Black Colleges and Universities, Hispanic-Serving Institutions, Tribal Colleges, and Other Minority Universities. A resource that some proposers may find useful in this regard is the NASA MSI Exchange at <https://msiexchange.nasa.gov/>.
- identify and address other topics related to diversity, equity, accessibility, and inclusion that the proposing team has identified and seeks to resolve.

All efforts identified under the Inclusion Plan should have clearly stated goals, activities to achieve those goals, and metrics for measuring progress during the award period. If additional funding is needed to implement the plan, it should be included and justified in the budget.

Example excerpt from grant stats spreadsheet

A	B	C	D	E	F	G	H
ROSES year	Solicitation or Program Element Title	Submitted	Selected*	% Selected	SMD Division	Avg K\$/Yr	Notes * Selected means "encourage"
2020	Emerging Worlds Step-1	145	142	N/A	Planetary	N/A	
2020	Emerging Worlds Step-2	125	22	18%	Planetary	195	22 includes one partial selection. One
2020	Solar System Workings	253	47	19%	Planetary	170	Two declined, not compliant/not resp
2020	Exobiology	156	25	16%	Planetary	221	Two declined, not compliant/not resp
2020	Solar System Observations Step-1	59	58	N/A	Planetary	N/A	
2020	Solar System Observations Step-2	47	13	28%	Planetary	147	
2020	Development and Advancement of Lunar Instrumentation Program Step-1	47	47	N/A	Planetary	N/A	
2020	Development and Advancement of Lunar Instrumentation Program Step-2	43	5	12%	Planetary	1895	\$ value is total awarded amount, all s
2020	Laboratory Analysis of Returned Samples Step-1	36	36	N/A	Planetary	N/A	
2020	Laboratory Analysis of Returned Samples Step-2	30	7	23%	Planetary	329	Award sizes varied by ~ factor of 10
2020	Planetary Data Archiving, Restoration, and Tools Step-1	172	170	N/A	Planetary	N/A	
2020	Planetary Data Archiving, Restoration, and Tools Step-2	131	23	18%	Planetary	139	Includes one partial selection.
2020	Cassini Data Analysis Step-1	65	65	N/A	Planetary	N/A	
2020	Cassini Data Analysis Step-2	57	17	30%	Planetary	179	
2020	New Frontiers Data Analysis Step-1	61	61	N/A	Planetary	N/A	
2020	New Frontiers Data Analysis Step-2	44	16	36%	Planetary	163	includes one partial Selection. One d
2020	Discovery Data Analysis Step-1	57	57	N/A	Planetary	N/A	
2020	Discovery Data Analysis Step-2	48	12	25%	Planetary	164	
2020	Mars Data Analysis Step-1	134	103	N/A	Planetary	N/A	
2020	Mars Data Analysis Step-2	96	31	32%	Planetary	144	
2020	Planetary Instrument Concepts for the Advancement of Solar System Observations	125	118	N/A	Planetary	N/A	
2020	Planetary Instrument Concepts for the Advancement of Solar System Observations	94	10	11%	Planetary	318	including a partial selection.
2020	Planetary Protection Research	see notes	see notes	see notes	Planetary	N/A	Not Solicited This Year
2020	Lunar Data Analysis Step-1	66	61	N/A	Planetary	N/A	
2020	Lunar Data Analysis Step-2	45	7	16%	Planetary	187	
2020	Topical Workshops, Symposia, and Conferences	38	9	24%	Cross Division		Proposers are instructed to contact f
2020	Exoplanets Research Program	153	30	20%	Cross Division		7 declined not compliant.
2020	Habitable Worlds Step-1	147	71	N/A	Cross Division	N/A	
2020	Habitable Worlds Step-2	71	8	11%	Cross Division	169	3 declined non compliant.
2020	Future Investigators in NASA Earth and Space Science and Technology Astro	196	21	11%	Cross Division	45	199 received, 2 returned without revi
2020	Future Investigators in NASA Earth and Space Science and Technology Earth	344	58	17%	Cross Division	45	351 received, 2 withdrawn, 5 non cor
2020	Future Investigators in NASA Earth and Space Science and Technology Helio	36	16	44%	Cross Division	45	36 received. 16 selected. 2 instrumen
2020	Future Investigators in NASA Earth and Space Science and Technology Planetary	247	33	13%	Cross Division	45	
2020	Science Activation Program Interactio	66	6	9%	Cross Division	675	10 declined not compliant.

<https://science.nasa.gov/researchers/sara/grant-stats> Current file is from fall 2021, so the data is only through ROSES-2020 but soon it will be updated to include data from ROSES-2021, which is still ongoing.

Points of contact for ROSES

at <https://science.nasa.gov/researchers/sara/program-officers-list/>

Astrophysics Programs

- Astrophysics R&A Lead: Stefan Immler: [email](#), 202-358-0615, [bio](#)
- Astrophysics Data Analysis (ADAP): Doug Hudgins: [email](#), 202-358-0988, [bio](#)
- Astrophysics Research and Analysis (APRA): Dominic Benford: [email](#), 202-358-1261, [bio](#)
- Particle Astrophysics: Thomas Hams: [email](#), 202-358-5162
- Fundamental Physics: Thomas Hams: [email](#), 202-358-5162
- High-Energy Astrophysics (X-ray and Gamma-ray): Valerie Connaughton: [email](#), 202-358-1763
- Ultraviolet and Visible Astrophysics: Michael Garcia: [email](#), 202-358-1053, [bio](#)
- Infrared, Submillimeter, and Radio Astrophysics: Eric Tollestrup: [email](#), 202-358-0907
- Laboratory Astrophysics: William B. Latter: [email](#), 202-358-0734, [bio](#)
- Nancy Grace Roman Technology Fellowships (RTF): Mario Perez: [email](#), 202-358-1535, [bio](#)
- Astrophysics Theory (ATP): Sanaz Vahidinia: [email](#), 949-584-8669
- Theoretical and Computational Astrophysics Networks (TCAN): Sanaz Vahidinia: [email](#), 949-584-8669

Programs Related to Astrophysics Missions

- Astrophysics Science SmallSat Studies: Michael Garcia: [email](#), 202-358-1053
- Astrophysics CubeSats: Michael Garcia: [email](#), 202-358-1053
- Astrophysics Explorers U.S. Participating Investigator (APEX USPI): Patricia (Pat)

















- › [How To Guide](#)
- › [Library and Useful Links](#)
- › [NASA Workforce Study](#)
- › [New PI Resources](#)
- › [No Due Date Programs](#)
- › [Program Officers List](#)
- › [ROSES Blog](#)
- › [ROSES FAQ](#)
- › [Volunteer to Review Proposals](#)
- › [Work-Life Balance](#)
- › [Contact SARA](#)

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Changes and Additions to ROSES after release:

[How to subscribe to the ROSES Google Due Date Calendar](#)

Review

-  [DRAFT Initiating Contributions to International Partner-led Missions](#)
 -  [SMD Policy on Peer Review Conflicts of Interest \(SPD-02A\)](#)
 -  [SMD Policy on Late Proposals \(SPD-02A\)](#)
 -  [SMD Policy on Reconsideration \(SPD-09C\)](#)
 -  [SPD 15 Center Community Service Policy](#)
 -  [SPD-16 Civil Servant Peer Review Conflict of Interest](#)
 -  [SMD Policy on Peer Review \(SPD-22\)](#)
 -  [SPD-26B Communications for Missions \(updated and signed\)](#)
 -  [SPD-29 External Websites, Original with Erratum](#)
 -  [SPD 31 Student Collaboration](#)
 -  [SPD-33 Citizen Science](#)
 -  [Scientific Information policy \(SPD-41\)](#)
 -  [How to Submit a Step-1 Proposal](#)
 -  [How to Submit a Step-2 Proposal](#)
 -  [How to Subscribe to the ROSES-2022 Due Date Calendars](#)
 -  [ROSES Peer Review plenary example slides 2021](#)
- › [Grant Stats](#)
 - › [How To Guide](#)
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 - › [NASA Workforce Study](#)
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(SARA web page)

← Google due
date calendar

Increasing Access to Results

- Data Management Plans will be peer reviewed and will be part of the grade given to the proposal, see <https://science.nasa.gov/researchers/sara/faqs/dmp-faq-roses/>
- Uniform expectations/requirements across all of ROSES regarding data and software. See Research Overviews (i.e., A.1, B.1, C.1...)
- Accepted manuscript versions of peer-reviewed publications from ROSES awards must be uploaded into "[PubSpace](#)". NASA Civil Servants and contractors will use the 1676 via <https://strives.nasa.gov/>, and grantees & Coops use <https://sti.nasa.gov/submit-to-pubspace>. Help from <https://sti.nasa.gov/contact-us>.

Table 2 of ROSES (sorted by due date)

Appendix	Program Element Title	NOI or Step-1 Due Date ^[2]	(Step-2) Proposal Due Date
A.1, B.1 etc	Research Program Overviews...	N/A	N/A
B.22	<u>DRAFT Space Weather Centers of Excellence</u>	Comments due April 1, 2022	
A.52	Earth System Science for Building Coastal Resilience	04/07/2022	05/17/2022
D.2	Astrophysics Data Analysis	04/01/2022	05/19/2022
A.8	Physical Oceanography	04/22/2022	05/25/2022
F.3	Exoplanets Research	03/31/2022 (Step-1)	05/26/2022 (Step-2)
A.33	ECOSTRESS Science and Applications Team	05/04/2022	06/01/2022
C.17	<u>Planetary Science Enabling Facilities</u>	04/08/2022 (Step-1)	06/03/2022 (Step-2)
B.7	<u>Space Weather Science Application Research-to-Operations-to-Research</u>	04/12/2022 (Step-1)	06/14/2022 (Step-2)
A.27	Making Earth System Data Records for Use in Research Environments	04/26/2022	06/02/2022
A.23	Earth Surface and Interior	04/13/2022	06/15/2022
C.19	Development and Advancement of Lunar Instrumentation	04/13/2022 (Step-1)	06/15/2022 (Step-2)
C.21	Yearly Opportunities for Research in Planetary Defense	04/21/2022 (Step-1)	06/16/2022 (Step-2)
B.11	Heliophysics Flight Opportunities for Research and Technology	N/A	06/22/2022

Bold and red means a change

Changes and Additions to ROSES after release: NSPIRES mailing lists

Any other new program elements added, TBD programs that are finalized, or major changes in scope (or due date) will be announced by an Amendment to ROSES. You will get an email if you subscribe to the SMD mailing list in NSPIRES under "Account Management".

5. Science Mission Directorate

- Astrophysics
- Heliophysics
- Planetary Science
- General Subscription List
- Earth Science
- Physical Sciences
- Space Biology

Example NSPIRES email to Division list

From: "smdh@listsrv2.nasaprs.com" <smdh@listsrv2.nasaprs.com>
Reply-To: "smdh@listsrv2.nasaprs.com" <smdh@listsrv2.nasaprs.com>
Date: Wednesday, February 16, 2022 at 10:15 AM
To: "smdh@listsrv2.nasaprs.com" <smdh@listsrv2.nasaprs.com>
Subject: [Smdh] Heliophysics Templates for ROSES-22 Posted

Heliophysics Templates for ROSES-22 Posted

Beginning with ROSES-2022, all proposals to Appendix B Elements must include a Current and Pending Support (C&P) table for PIs and Co-Is following a standardized format.

Proposals that do not include a C&P table in the correct format, even if selectable, may not be funded until an appropriate C&P table is submitted. PDF, MS Excel and MS Word templates of this table and instructions for their use have now been posted at:

<https://science.nasa.gov/researchers/templates-heliophysic-division-appendix-b-roses-proposals>

You are receiving this email because you have subscribed, through NSPIRES, to the Heliophysics mailing list under the NASA Science Mission Directorate. If you wish to unsubscribe from this mailing list, access your NSPIRES account, click on Account Management, then click the Email Subscriptions link. If you need assistance, please contact the NSPIRES Help Desk at NSPIRES-Help@nasaprs.com or call 202-479-9376.

Example NSPIRES email to SMD General Subscription list

From: "smd@listsrv2.nasaprs.com" <smd@listsrv2.nasaprs.com>
Reply-To: "smd@listsrv2.nasaprs.com" <smd@listsrv2.nasaprs.com>
Date: Thursday, February 17, 2022 at 9:42 AM
To: "smd@listsrv2.nasaprs.com" <smd@listsrv2.nasaprs.com>
Subject: [Smd] ROSES-22 Amendment 1: B.10 H-FOS Final Text and Due Date .

ROSES-22 Amendment 1: B.10 H-FOS Final Text and Due Date

[B.10 Heliophysics Flight Opportunities Studies \(H-FOS\)](#) solicits proposals of up to twelve-month for studies of potential Heliophysics Science mission concepts at the pre-phase A level. Proposals to enable application of new technologies (platform and/or instrumentation) are encouraged. NASA intends to award a range of studies across the spectrum of heliophysics science and mission costs. However, mission concepts appropriate for proposals to B.11 H-FORT are of particular interest. Investigations must be responsive to the Heliophysics Division Science Goals and must identify a potential future mission.

ROSES-2022 Amendment 1 releases final text and announces the proposal due date for B.10 H-FOS. Neither Notices of Intent nor Step-1 proposals are requested for this program element. Proposals are due September 1, 2022.

On or about February 17, 2022, this Amendment to the NASA Research Announcement "Research Opportunities in Space and Earth Sciences (ROSES) 2022" (NNH22ZDA001N) will be posted on the NASA research opportunity homepage at <http://solicitation.nasaprs.com/ROSES2022> and will appear on SARA's ROSES blog at <https://science.nasa.gov/researchers/sara/grant-solicitations/roses-2022/>

Questions concerning B.10 H-FOS may be directed to Roshanak Hakimzadeh at hakimzadeh@nasa.gov.

ROSES-2022 Amendments, Clarifications, and Corrections

Welcome to SARA's Research Opportunities in Space and Earth Sciences (ROSES)-2022 Blog, a way to keep track of changes to ROSES-2022. To effectively search this page for changes to ROSES relevant to a certain division or keyword you click on the magnifying glass in the upper right corner and search on "ROSES" and the key word or name of the division (e.g., "ROSES Astrophysics" or "ROSES Flight").

Amendment 7: A.36 Earth Science Applications: Agriculture Final Text and Due Dates

EARTH | Mar 11, 2022

A.36 Earth Science Applications: Agriculture (ESA Agriculture) solicits proposals for a program management capability that increases and enables sustained uses of Earth observations for the advancement of domestic agricultural practices in public and private organizations for economic and social... [Read More](#)

Amendment 6: A.51 Applications-Oriented Augmentation for Research and Analysis Final Text

EARTH | Mar 10, 2022

Through A.51 Applications-Oriented Augmentation for Research and Analysis, the Earth Science Research and Analysis (R&A) and Applied Sciences programs are collaborating to support current R&A investigators in enabling them to work across the traditional boundaries between research and... [Read More](#)

Amendment 5: B.20 Heliophysics Tools and Methods Final Text

SUN | Mar 9, 2022

ROSES-2022 B.20 Heliophysics Tools and Methods (HTM) program solicits proposals to advance the goal of a robust, vital, and cohesive Python environment for Heliophysics. It encompasses the python software tools and method needs throughout Heliophysics, including Solar, Heliospheric, Magnetosphere,... [Read More](#)

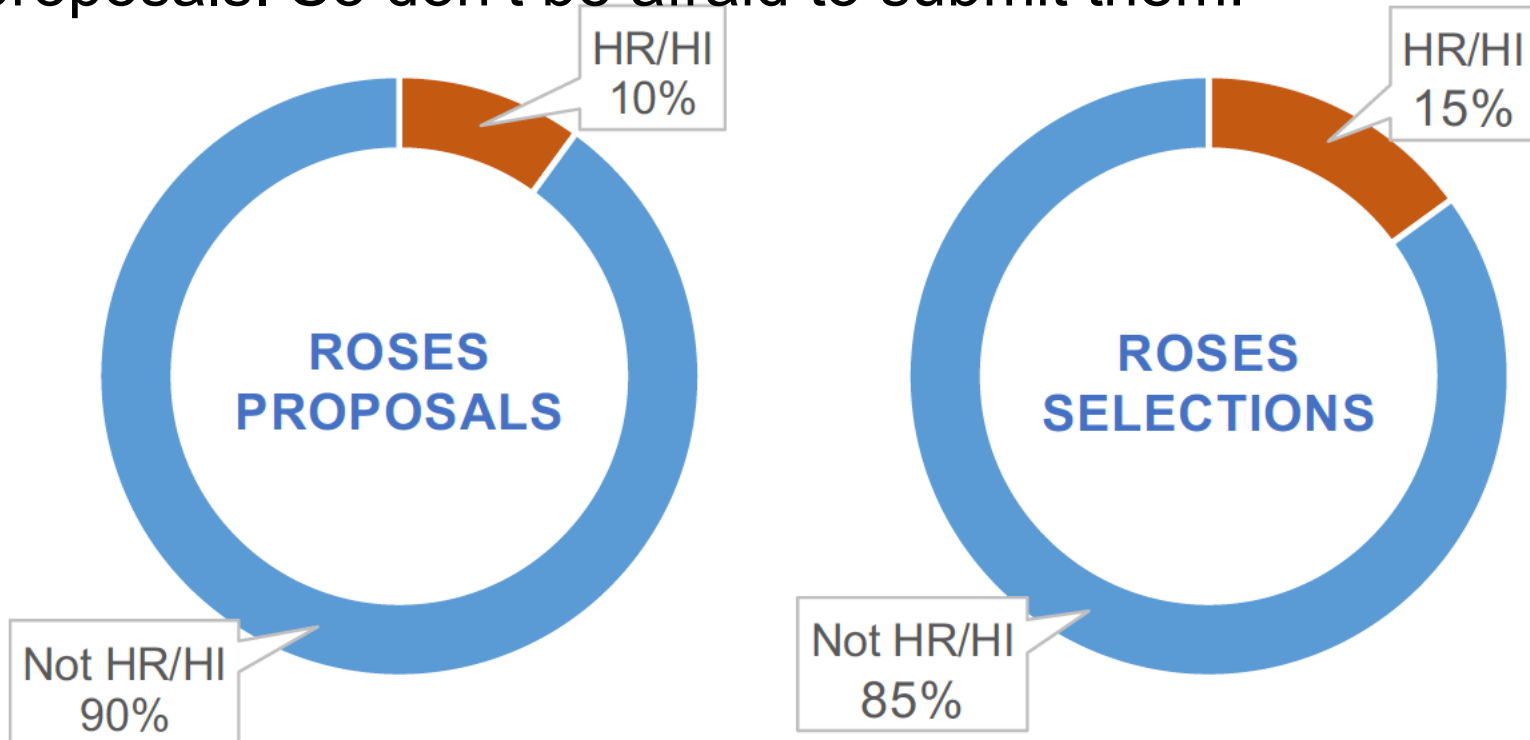
By Topic

-  Universe
-  Solar System
-  Sun
-  Earth
-  Space Experiments
-  Citizen Science
-  COVID

<http://science.nasa.gov/researchers/sara/grant-solicitations/roes-2022/>

High Risk - High Impact

- Identification of high-(intellectual) risk high-impact proposals by proposers and peer reviewers will continue.
- high-risk is not technological risk. Think "transformative" or "out of the box" technology ideas or paradigm-shifting research.
- SMD funds HR/HI proposals at a higher rate than other proposals. So don't be afraid to submit them!



Dual-anonymous peer review, cont.

Any program element that is using DAPR will:

- 1) clearly indicate that this is the case in the call,
- 2) contain a special section with detailed instructions about how to prepare proposals,
- 3) [link to a special web FAQ on this subject](https://science.nasa.gov/researchers/dual-anonymous-peer-review), at <https://science.nasa.gov/researchers/dual-anonymous-peer-review>
- 4) and the NSPIRES page of any program using DAPR will host "Guidelines for Anonymous Proposals" under "Other documents".

Dual-anonymous peer review, cont.

People have told me that this will not work because they will be able to tell who wrote the proposal even without the name on it.

You may be surprised to learn that, according to the folks who ran the Hubble review, in the vast majority of cases (like 90%) the reviewers were not able to correctly identify the authors of the proposal.

Please don't assume you have correctly identified the authors of the proposals, because you are wrong 9 times out of 10.

Moreover, social science shows that even just removing the names helps reviewers focus more on the science

Dual-anonymous peer review, cont.

Proposers to these programs must provide two separate documents: an anonymized version of the proposal for peer review and a non-anonymized document that contains components of the proposal that would reveal the identities and affiliations of participating researchers, such as expertise, facilities and resources. The latter will be revealed to the panel only after the evaluation of all proposals and only for a subset of selectable proposals (typically the top third). If there are clear, compelling deficiencies in the expertise required to see through the goals of the proposal, the panel may note this in its comments to NASA. This review may not be used to upgrade proposals for having particularly strong team qualifications, nor may it be used to re-evaluate proposals.

Cover Page Budget

There are three lines for Co-Is at other organizations. First, put funds for Co-I government organizations in lines 8 & 9. Put the funds that pass through your organization in line 5.

Budget Period 1 - F. Other Direct Costs

Item	Funds Requested (\$)
1. Materials and Supplies	1500
2. Publication Costs	2000
3. Consultant Services	
4. ADP/Computer Services	300
Redacted { 5. Subawards/Consortium/Contractual Costs	600000
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
Redacted { 8. Portion of award for NRL	150000
9. Portion of award for GSFC	80000
10. Dont use this line, its not redacted	
Total Other Direct Costs:	\$ 833800
Total Period 1:	\$ 833800
Total Budget:	\$ 833800

Cover Page Budget

I used Section F line 5, the generic subaward line, for my \$60K subcontract to Miskatonic University, not that you can tell, because I could not modify the description of line 5. That this is for M-U will only become apparent later when you read the actual proposal.

Next, I used customizable line 8 for the \$150K that will be sent directly to my Co-I at Naval Research Lab and I entered "NRL portion of this award" in the description.

In line 9 I put the GSFC portion of the award and labeled it appropriately.

When the proposal is evaluated by the peer-review panel, they will not see any of the \$ numbers in the Personnel Sections or in Section F lines 5, 8 & 9, all of that will be automatically redacted.

From <http://science.nasa.gov/researchers/sara/how-to-guide/nspires-CSlabor/>

Budget Details/Justification

Include costs of things (including those in a sub award) in the budget detail/justification in the main proposal PDF e.g., explain why does your Co-I need a 6 Series B MSO Mixed Signal Oscilloscope that costs 10s of \$ K, why not a TBS1000C or TBS2000B?

Also, make reference to the subaward e.g., "0.5 FTE are allocated for Co-I Dr. H. West (Miskatonic, Arkham, Mass) as can be seen in the summary table of work effort and full costs are in Section F line 5 of the cover page budget and in the separately uploaded Total Budget pdf file."

Budget Details/Justification

Ditto consultants, no salary, fringe and overhead costs in the main proposal PDF. In the budget justification in the main proposal PDF you explain only the part that is not labor e.g., "The total cost of the consultants Goldshtik and Whorfin of the Banzai Institute is provided in the NSPIRES cover page budget in Section F line 3. The consultancy includes the cost of the rental of an oscillation overthruster from Professor Tohichi Hikita of Nagoya university at \$157/hour. This cost is quite reasonable given that similar facilities are twice as expensive.

Total Budget Upload

- The Total Budget PDF is uploaded in exactly the same way that the proposal PDF is uploaded, but by choosing document type "Total Budget", see figure below. This Total Budget file will not be seen by peer reviewers. In general, these budget files are for Step-2 proposals only.

Add Proposal Attachment

Proposal: Testing the theory of floaters, sinkers and hunters on g:

Uploading Attachment Instructions

Use the form below to upload a document for your proposal.

- Select the type of document
- Choose the file on your local computer
- Click "Upload" to add the document to this proposal

Upload Attachment

Attachment Type:

File:

File selected.

Upload

Cancel

Table of Work Effort

Table of work effort in the main proposal PDF is merely a reporting of the planned work commitment for all participants, funded by NASA or not. A very simple example from Section IV(b)iii of the ROSES summary of Solicitation will appear on the next slide. Note, this table is outside of and is distinct from budget and the page limited main part of proposal, which must describe what work each team member will be doing. That doesn't belong here.

Templates for the planetary science division may be found at <http://tinyurl.com/hbnff8u> (refer to #2).

And for the Earth Science Division [here](#).

(Simple) Table of Work Effort

Person and/or Role	Time charged to this proposal	Time not charged to this proposal	Total Time per person/year
PI, Edwina Mercer	3 months/year	N/A	3 months/year
Co-I, Kelley Grayson	4 months/year	N/A	4 months/year
Co-I, Dr. C. Finn.*	N/A	1.5 months/year	1.5 months/year
Collaborator, Alara Kitan	N/A	de minimis	de minimis
Grad Student, P. Bortus ^o	N/A	12 months/year	12 months/year

* A letter of support is provided from the (foreign organization) Saturnian School of Medical Sciences for Dr. Claire Finn, participating at no cost to this proposal .

^o The Graduate student from Moclan College is funded by a FINESST award and thus participating at no cost to this proposal.

Order of Precedence

- There is a section I(h) in the Summary of Solicitation, called Order of Precedence: The Guidebook vs. ROSES vs. Program Elements which tells you what to do if ROSES SOS, the guidebook, and or an individual program element disagree:
Program element > Division Research Overview (e.g., B.1) > SOS > Guidebook.
- FAQs should merely elaborate, not surprise you or contradict a rule in the program element.