Dual-Anonymous Peer Review: Guidelines for Anonymous Proposals
(to ROSES Astrophysics GO/GI Programs)

1.   Introduction

NASA's Science Mission Directorate is strongly committed to ensuring that the review of proposals is performed in an equitable and fair manner. To this end, SMD will evaluate proposals submitted to numerous ROSES program elements using dual-anonymous peer review (DAPR). Under this system, not only are proposers unaware of the identity of the members on the review panel, but the reviewers do not have explicit knowledge of the identities of the proposing team until after the evaluation and rating of all proposals is complete. The objective of dual-anonymous peer review is to minimize the impact of implicit or unconscious bias in the evaluation of the merit of a proposal.

This document provides instructions to proposers submitting to the following ROSES elements:

- D.5 Swift (only Phase-1 proposals will be anonymized)
- D.6 Fermi (only Phase-1 proposals will be anonymized)
- D.9 NuSTAR (only Phase-1 proposals will be anonymized)
- D.10 TESS (only Phase-1 proposals will be anonymized)
- D.11 NICER (only Phase-1 proposals will be anonymized)
- D.16 IXPE GO (only Phase-1 proposals will be anonymized)
- D.17 XRISM GO (both Type-1 and Type-2 proposals will be anonymized)

2.   The Anonymized Proposal Document

2.1 Submission of Proposals

As in previous cycles, Phase-1 proposals will continue to be submitted via the Astrophysics Research Knowledgebase (ARK)/Remote Proposal System (RPS) website at the following URL: https://heasarc.gsfc.nasa.gov/ark/rps/. Proposers must fill in all required information on the cover pages: any identifying information in the cover pages will be automatically redacted by NASA in the copy provided to reviewers.

2.2 Proposal Abstract

Proposers are required to write the proposal abstract in an anonymized format, omitting names of the team members or their institutions as well as any other individually-identifying information (see §2.3 for guidelines).

2.3 Scientific/Technical/Management Section

Proposers are required to write the Scientific/Technical/Management (i.e., science justification) section of the proposal in an anonymized format that does not explicitly identify the names of the team members or their institutions. Some specific points follow:

- Do not claim ownership of past work or use possessive pronouns that indicate ownership, e.g., "my previously funded work..." or "Recently published results from our laboratory demonstrate that…"
- Do not use the proper names of people or institutions anywhere outside of the reference list in the anonymized proposal document. This includes but is not limited to, page headers, footers, diagrams, figures, watermarks, or PDF bookmarks. The only exceptions are named phenomena, objects, or general use facilities (e.g. Van Allen Radiation Belts, Comet Hyakutake, Barnard's Star, the NIST Atomic Spectra Database, the Mikulski Archive for Space Telescopes, etc.).
- Do not associate proposal personnel with named teams or collaborations, e.g., "the PI is a member of the EAGLE collaboration." *Exceptions might be allowed in cases where the named collaboration is large and the role of the team member in the collaboration is not specified. However, when in doubt, contact the cognizant program officer.*
- Do not include institutional logos or other identifying insignia anywhere in the anonymized proposal document.
- Do not use gendered pronouns (e.g. he, she, his, her, etc.) anywhere in the anonymized proposal document.
- Reference callouts in the text must be written in the form of a number in a square bracket, e.g. [1], which will then correspond to the full citation in the reference list. It is recommended that callouts to appear in numerical order in the text to simplify navigation between the proposal and the reference list for reviewers.
- When citing references, use third person neutral wording. This especially applies to self-referencing. For example, replace phrases like "as we have shown in our previous work [17], …" with "as previously shown [17], ..."
- Depending on the program element, it may be occasionally important to cite exclusive access datasets, non-public software, unpublished data, or findings that have been presented in public before but are not citable. Each of these may reveal (or strongly imply) the investigators on the proposal. In these instances, proposers must use language such "obtained in private communication" or "from private consultation" when referring to such potentially identifying work. If proposers include this type of citation, do not include with whom the personal communication took place, i.e., do not refer to the names or roles of individuals or provide a description of a team or group.

As always, the reviewers expect proposers to describe past work in the field to put the proposed work into context and how the proposed work would improve, build-upon, complement, contradict, or complete that past work. Using the above guidelines, proposers should be able to successfully accomplish this objective.

2.4 Return without Review for Unanonymized Proposals

SMD understands that dual-anonymous peer review represents a major shift in the preparations and evaluation of proposals and, as such, there may be occasional minor errors in writing anonymized proposals. However, SMD reserves the right to return without review proposals wherein the anonymization errors are so pervasive and/or

numerous that it is deemed impossible to fairly evaluate the proposal within the context of the dual-anonymous process.

SMD further acknowledges that some proposed work may be so specialized that, despite attempts to anonymize the proposal, the identities of the Principal Investigator and team members may be discernable. That notwithstanding, as long as the proposers follow the above guidelines for proper anonymization, SMD will not return these proposals without review.

2.5 Common Pitfalls in the Preparation of Anonymized Proposals

Below is a non-exhaustive list of common pitfalls when preparing anonymized proposals. Proposers should be careful to avoid these common errors when preparing and submitting their proposals.

   i.   Including metadata (e.g., PDF bookmarks, document properties) that reveal the name of the PI.
   ii. Recycling proposals prepared prior to dual-anonymous peer review and not carefully anonymizing the text.
   iii. Providing the names of organizations or investigators on a title page, contents page, or in a header or footer.
   iv. Attempting to "redact" identifying information by inserting a black rectangle over parts of the text, versus formally redacting the text using specialized software.
   v.   Including the "Expertise and Resources Not Anonymized" document within the main proposal PDF.
   vi. Failing to remove all editorial comments and other markups entered during the drafting and revision of the proposal prior to its submission.

Many of these issues may be resolved by carefully searching the anonymized proposal document for identifying information, e.g., PI name, Co-I name(s), institution(s) before submission.

3. Separate "Expertise and Resources Not Anonymized" Document

Proposers will also be required to upload a separate "Expertise and Resources Not Anonymized" document, which is not anonymized. This document shall be no more than three pages in length. The document will contain the following elements:

   i.   On the first page, a list of all team members, together with their institutional affiliations and roles (e.g., PI, Co-I, collaborator).
   ii. Brief descriptions of the scientific and technical expertise each team member brings, emphasizing the areas of knowledge necessary to the successful execution of the proposed work.
   iii. A discussion of the contribution that each team member will make to the proposed investigation.
   iv. A discussion of specific resources (e.g., access to a laboratory or observatory) that are required to perform the proposed investigation.
   v.   Any statements of Commitment and Letters of Support, Feasibility or Endorsement (if applicable)

This document will be distributed to the review panel for a subset of proposals (typically the top third, according to the distribution of assigned grades and the projected selection rates). This is to allow the reviewers to assess the qualifications, capabilities, and related expertise of the team and the facilities, instruments, equipment and other resources or support systems required to execute the proposed investigation.

The following is an example list of team members and statement of team member roles and expertise (items i and ii in the above list):

List of investigators, institutional affiliations, and roles:

Dr. Karen St. Germain, NASA Headquarters (PI)
Dr. Nicky Fox, NASA Headquarters (Co-I)
Dr. Lori Glaze, NASA Headquarters (Co-I)
Dr. Paul Hertz, NASA Headquarters (collaborator)

Team expertise:

Dr. Karen St. Germain has extensive experience in the development, management, and oversight of space-based science missions. She will coordinate the project and be responsible for obtaining the samples. Dr. Nicky Fox is an expert in telematics and satellite communications, and previously served as the Project Scientist for NASA's Parker Solar Probe. Dr. Fox will integrate the laboratory data with the supercomputer-derived models. Dr. Lori Glaze brings expertise in the conceptualization and development of planetary instrumentation. Dr. Glaze will refine the machine learning algorithm that is necessary to complete the proposed work. Dr. Paul Hertz is an expert in X-ray emission from neutron stars, black holes, and globular clusters. Through his institutional affiliation, Dr. Hertz has access to the synchrotron beamline necessary to complete the proposed work.

4. <u>Summary of Requirements for Anonymized Proposals</u>

Item	Requirement
Anonymization	Phase-1 proposals are anonymized. Phase-2 (cost) proposals are not anonymized.
Submission	Phase-1 proposals are submitted through ARK/RPS. Phase-2 (cost) proposals are submitted through NSPIRES.
References	References must be in numerical form using the [1], [2] format. It is recommended that the callouts appear in numerical order in the text.
Proposal length	See requirements in specific program element.
Separate, no more than 3-page "Expertise and Resources Not Anonymized" document	This document provides a list of all team members, their institutions, roles, expertise, and contributions to the work. The document should also discuss any specific resources that are key to completing the proposed work.

5. <u>Evaluation of Proposals in Dual-Anonymous Peer Review</u>

The overarching objective of dual-anonymous peer review is to reduce the impact of unconscious bias in the evaluation of the merit of a proposal. To ensure this goal, the review panels will be instructed to evaluate proposals based on their scientific merit without taking into account the identity of the proposers. Here are some specific instructions provided to reviewers:

    i.   Evaluate proposals solely on the scientific/technical merit of the work proposed. Remember to discuss the science and not the people.
    ii.   Do not spend any time attempting to identify the PI or the team. This applies even if you think you know the identities of the team members.
    iii.   In the panel discussions, do not speculate on identities, insinuate the likely identities, or instigate discussion on a possible team's past work.
    iv.   When writing evaluations, use neutral language focused on the work and not the people (e.g., instead of writing, "what they propose to investigate" or "the team has previously evaluated similar data" use "the proposed investigation will address" or "the proposal summarizes a previous evaluation of similar data").

In addition, if at any point a reviewer suspects they know the identities of the proposing team, they are instructed: (1) to inform the cognizant program officer of the situation; and (2) not to share their suspicions with their fellow reviewers. There are procedures in place for assessing and mitigating any such issues.

Each DAPR review panel is assigned a "leveler" who is present in the panel room throughout the discussion and rating of all proposals. The leveler serves as a facilitator or process monitor only. They are not there to participate in the technical evaluation of proposals. The leveler's job is to ensure that the panel deliberations focus on the evaluation criteria that we provide, and do not stray into speculation about the identities of the proposers, their perceived attributes, or the quality of their past work. If a panel discussion does stray into conjecture about the identities of the proposers, it is the leveler's responsibility to step in and redirect or refocus the discussion. Levelers even have the authority to stop the discussion of a proposal if their efforts to redirect the panel are unsuccessful.

As a final check, and only after the evaluation and rating of all the anonymized proposal documents assigned to the panel has been completed, panelists will be provided with the "Expertise and Resources Not Anonymized" documents for the subset of proposals that scored highly enough that they may reasonably be considered for selection. The fraction of the proposals that go through this validation process is determined by the cognizant program officer based on the distribution of ratings and the expected selection rate for the program. Based on this information, the panel will assess the qualifications, capabilities, and related expertise of the team and the facilities, instruments, equipment and other resources or support systems required to execute the proposed investigation. Based on their assessment, the panel will assign the "Expertise and Resources Not Anonymized" document to one of three categories: Uniquely Qualified; Qualified; or Unqualified. This categorization, together with any finding

documented by the panel, is captured in a separate evaluation form, which is returned to the proposing team along with other documentation from the review. This validation process may not be used to "upgrade" proposals for having particularly strong team qualifications, nor may it be used to re-evaluate proposals.

6. Example Text for Anonymized Proposals

Much of the following text has been reproduced, with permission, from the Hubble Space Telescope dual-anonymous peer review website.

Here is an example of text from a sample proposal:

> Over the last five years, we have used infrared photometry from 2MASS to compile a census of nearby ultracool M and L dwarfs (Cruz et al, 2003; 2006). We have identified 87 L dwarfs in 80 systems with nominal distances less than 20 parsecs from the Sun. This is the first true L dwarf census – a large-scale, volume-limited sample. Most distances are based on spectroscopic parallaxes, accurate to 20%, which is adequate for present purposes. Fifty systems already have high-resolution imaging, including our Cycle 9 and 13 snapshot programs, #8581 and #10143; nine are in binary or multiple systems, including six new discoveries. We propose to target the remaining sources via the current proposal.

Here is the same text, re-worked following the anonymizing guidelines:

> Over the last five years, 2MASS infrared photometry has been used to compile a census of nearby ultracool M and L dwarfs [6,7]. 87 L dwarfs in 80 systems have been identified with nominal distances less than 20 parsecs from the Sun. This is the first true L dwarf census – a large-scale, volume-limited sample. Most distances are based on spectroscopic parallaxes, accurate to 20%, which is adequate for present purposes. Fifty systems already have high-resolution imaging, including the Cycle 9 and 13 snapshot programs, #8581 and #10143; nine are in binary or multiple systems, including six new discoveries. We propose to target the remaining sources via the current proposal.

Here is another example of text from a sample proposal:

> In Rogers et al. (2014), we concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If our model from Rogers et al. (2014) is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with our first epoch obtained in 2007 to measure the proper motion of the shock wave.

Here is the same text, again re-worked following the anonymizing guidelines:

> Prior work [12] concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If the model from [12] is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with a first epoch obtained in 2007 to measure the proper motion of the shock wave.

Another common situation that occurs in proposals is when a team member has institutional access to unique facilities (e.g., access to a laboratory, observatory, specific instrumentation, or specific samples or sites) that are required to accomplish the proposed work. An anonymized proposal does not prohibit stating this fact in the Scientific/Technical/Management section of the proposal; however, the proposal must be written in a way that does not identify the team member. Here is an example:

> The team has been awarded XX days of telescope time on the Karl G. Jansky Very Large Array, which will enable us to simultaneously observe the same targets at a complimentary wavelength.

Note: in this situation, NASA strongly recommends that the team provide detailed supporting information to validate the claim in the "Expertise and Resources Not Anonymized" document, which is not anonymized.

This document was last updated on July 31, 2024. Additional information, as well as frequently asked questions, may be found at https://science.nasa.gov/researchers/dual-anonymous-peer-review. Comments and questions on this document may be directed to douglas.m.hudgins@nasa.gov and SARA@nasa.gov.