GRAND Publications Committee

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Niels Bohr Institute, University of Copenhagen



VILLUM FONDEN



GRAND Collaboration Meeting Warsaw, June 04, 2025



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Publications and authorship policy Find them in the wiki

GRAND Memorandum of Understanding (MoU) [edit]

Publications and authorship policy General GRAND MoU reditl

- Version of 29/03/2024 signed by 13 institutes: File:GRAND MoU 2024 signed.pdf
- Version of 12/06/2023 signed by 11 institutes: File:GRAND MoU 2023 signed.pdf
- Version of 27/01/2022, signed by 6 institutes; File:GRAND MoU 2022 signed.pdf

Specific Agreements or MoU [edit]

International Agreement between 5 institutes on GRAND@Auger, 22/12/2022, File:2022agreement GRAND@Auger signed.pdf

Content of the GRAND Principles for Organization and Management [edit]

GRAND Membership Policy [edit]

The GRAND Membership Policy approved by the Collaboration Board on 11/04/2022; File:GRAND membership 2022.pdf.

GRAND Publications & Authorship Policy [edit]

The GRAND publications & authorship policy was approved by the Collaboration Board on 17/04/2023: File:GRAND authorship policy.pdf. Ancillary policies:

- Guidelines for few-author papers of GRAND Collaboration members: File: Few-author paper guidelines grand approved v1 2024-05-13.pdf
- Instructions for the use of figures approved for public viewing by the GRAND Collaboration File: Grand figure approval v1 2024-05-13.pdf

GRAND Code of conduct fediti

Main publications and authorship policy

GRAND Policy on Publications, Presentations, and Authorship (Last updated: April 17, 2023)

Preamble

The Publications Committee

The Publications Committee oversees and coordinates the internal review process, submission of papers and proceedings reports as described in Sections 1 and 2.

The Collaboration Board appoints a Collaboration member to chair a Publications Committee. The period of office of the chair is 2 years, renewable, but at most 4 consecutive years. The duration is counted from the day the chair assumes office, independent of possible prior Publications Committee membership. The designated chairperson chooses three other members of the Publications Committee. The term of the members of the Publications Committee is 2 years, renewable, but at most 4 consecutive years. A later re-accession with the consensus of the chair is possible after a break of at least 2 years.

The Speakers Committee

The Speakers Committee oversees and coordinates the presentation of GRAND results by Collaboration members in conference presentations, as described in Section 4.

The Spokesperson, with concurrence of the Collaboration Board, appoints a Collaboration member to chair a Speakers Committee. The period of office of the chair is 2 years, renewable, but at most 4 consecutive years. The duration is counted from the day the chair assumes office, independent of possible prior Speakers Committee membership. The designated chairperson chooses three other members of this Speakers Committee. The term of the members of the Speakers Committee is 2 years, renewable, but at most 4 consecutive years. A later re-accession, with the consensus of the chair, is possible after a break of at least 2 years. A rapid decision channel (chair + spokesperson) can be enabled if there is insufficient time to involve the whole Speakers Committee.

1. Publications: general considerations

1.1 Peer-reviewed journal articles authored by the Collaboration

Results obtained by the Collaboration are to be submitted for publication in refereed journals. Drafts of research results are prepared by the analysis teams; drafts of papers on technical matters are prepared

Ancillary policy Few-author papers

Guidelines for few-author papers of GRAND Collaboration members

Guidelines for few-author papers

of GRAND Collaboration members

Document histor

v1 (this version): Version approved by the Collaboration Board on May 13, 2024

The GRAND Policy on Publications, Presentations, and Authorship (version of April 17, 2023), states the following on the issue of few-author papers:

"Collaboration members authoring or co-authoring publications which relate to GRAND, including, but not limited to, publications that use public or non-public information, that rely on internal discussions within GRAND, or that use GRAND infrastructure (hardware or software), must submit to the GRAND Publications Committee the paper outline as early as possible and the manuscript no later than a week prior intended submission to arXiv or journal. The Publications Committee may propose to the Collaboration Board that a full GRAND Collaboration author list and normal GRAND review procedure is required."

The guidelines on the next page attempt to give authors information about the most likely recommendation from the Publications Committee for a few common scenarios. If you are to start an analysis it can also give some guidance if you should continue to pursue the analysis with a few collaborators or as a GRAND Collaboration analysis.

Please keep in mind that each few-author paper is discussed individually and the decision to recommend it or not as a full Collaboration publication is taken on a case-by-case basis.

These guidelines and this document are closely inspired by the guidelines and document prepared by the IceCube Collaboration.

Instructions for the use of figures approved for public viewing by the GRAND Collaboration

Instructions for the use of figures approved for public viewing by the GRAND Collaboration

Figure approval

Document history

v1 (this version): Version approved by the Collaboration Board on May 13, 2024

1. About this document

This document describes the policy on the use of figures that have been approved by GRAND Collaboration to be shown to non-members of the Collaboration, and on how to secure their approval.

The policy contained in this document is part of the GRAND Principles for Organization and Management. Any scenarios not contemplated in the present document are addressed in other policy documents of the Collaboration, the most relevant of which is the GRAND Publications & Authorship Policy.

The policy contained in this document applies to all members of the GRAND Collaboration.

2. Definition of an approved figure

An approved figure is a figure that has been produced by a member of the GRAND Collaboration, on behalf of the Collaboration, and has been deemed by the Collaboration as suitable to be shown publicly, f.e., to non-Collaboration members.

For clarity, the text below refers only to approved figures. However, the contents of this document apply equally to approved figures, animations, videos, tables, and data files.

3. Need to use approved figures

Presentations and publications about GRAND that are produced on behalf of the GRAND Collaboration may only display figures (and other results) that have been approved by the Collaboration.

4. Who grants figure approval

The status of approved is granted to a figure exclusively by the Collaboration, after following the procedure detailed in point (9) below. Figure approval is granted collectively by the Collaboration.

5. Responsibility to secure figure approval

It is the responsibility of the Collaboration member that is producing the presentation or publication to ensure that all the figures shown by them have been approved by the Collaboration.

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Main publications and authorship policy

papers and proceedings reports as described in Sections 1 and 2.

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types of publications:

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Ancillary policy Few-author papers

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Ancillary policy Few-author papers

Establishes under what conditions a paper authored by Collaboration members will *likely* be allowed to be a few-author paper

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Main publications and authorship policy

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Ancillary policy Few-author papers Figure approval

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What conditions a paper authored by Collaboration members will *likely* be allowed to be a few-author paper

Establishes on the review

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About the pubcomm & instructions [edit]

Composition of the publications committee [edit]

Pubcomm composition last updated: May 2023 Chair: Mauricio Bustamante (mbustamante@nbi.ku.dk₺)

Pool of reviewers: See tables below

The PubComm wiki is our main tool to organize the internal review of:

- slides
- posters
- conference proceedings
- journal papers

Notes:

- PubComm does not review theses
- Collaboration papers receive full review
- Few-author papers undergo a week-long feedback period

Q

2025 [edit] Each contribution under review Journal papers [edit] [Expand] has its own dedicated entry Conference proceedings [edit] [Collapse] Title Deadline Draft . Contribution Paper Reviewed by Draft Deadline Code Conference Author(s) (click for abstract. conf. Status • (pdf) expected feedback type type (click review) reviews, etc.) subm. 7th International Closed: Reviews (click): 25 de-1. Beatriz de Errico GRAND: Status and [v2] Oral Collaboration Mauricio 28/01/2025 05/02/2024 07/02/2025 Review [v1] errico 02 pr Ultra High Energy 2. Kumiko Kotera Perspectives Bustamante completed Unique -7th International Reviews (click): Open: 25 de-Symposium on GRAND@Auger: status and [v2] 1. Beatriz de Errico Poster ✓1. Mauricio 28/01/2025 05/02/2024 07/02/2025 Collaboration Review code errico 01 pr Ultra High Energy first results [v1] Bustamante completed Slides and posters [edit] [Expand] 2024 [edit] Author(s) Title Draft Paper Status Journal papers [edit] version [Expand] history Conference proceedings [edit] Reviewers Expand Slides and posters [edit]

[Expand]

[Expand]

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updated

11/02/2025

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Most entries have a

detailed history of review

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Pubcomm review: 24 grand 03

- 1 Contribution information
- 2 02/06/2024: Review of v1 from Reviewer 5 (Peter Denton)
- 4 11/05/2024: Review of outline v1 from Reviewer 1 (Olivier Martineau)
- 5 10/05/2024; Review of outline v1 from Reviewer 3 (Mauricio Bustamante)
- 6 06/05/2024: Review of outline v1 from Reviewer 2 (Kumiko Kotera)

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Created: 26/04/2024 (Mauricio Bustamante) / Last updated: 03/06/2024 (Mauricio Bustamante)

Status: Open: v1 avail. for review

Contribution information [edit]

Title: GRAND Prototypes: GRANDProto300 and GRAND@Auger

Abstract: TBD

Draft (pdf): [out v1] [v1]

Contact person(s): 1. Beatriz de Errico 2. Shen Wang

Reviewers: 1. Olivier Martineau 2. Kumiko Kotera 3. Mauricio Bustamante 4. João Torres de Mello Neto 5. Peter Denton

02/06/2024: Review of v1 from Reviewer 5 (Peter Denton) [edit]

Sent to pubcomm: 02/06/2024 / Added here: 03/06/2024

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3 26/05/2024: Discussion during the Umbrella Meeting of 23/04/2024

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5.1 14/05/2024: Reply from paper leaders

6.1 14/05/2024: Reply from paper leaders

7 03/05/2024: Message from paper leaders for reviewers about outline v1

8 26/04/2024; Merging with 24 grand 01 and 24 grand 02 into 24 grand 03

9 Review history

Theses & reports Past Presentations

Journal: TBD

Paper type: Collaboration

Associated review: 24_grand_01, 24_grand_02

One minor suggestion:

0

Talks

Status of the GRAND project [Olivier]

The GRAND@Auger Prototype for the Giant Radio Array for Neutrino Detection [João]

The Hybrid Elevated Radio Observatory for Neutrinos (HERON) Project [Kumiko]

Search for cosmic rays in GRANDProto300 [Jolan]

Electric Field for Radio Detection of Inclined Air Showers in Three Polarizations [Kewen]

Progress of the GRANDProto300 Project [Yi Zhang]

6 talks + 7 posters

vs. 2023:

3 talks + 7 posters

<u>Posters</u>

GRANDlib: A simulation pipeline for the Giant Radio Array for Neutrino Detection (GRAND) [Lech]

NUTRIG: Development of a Novel Radio Self-Trigger for GRAND [Pablo]

Reconstruction of inclined cosmic ray properties with GRANDlike data [Marion]

Reconstruction of cosmic-ray properties with uncertainty estimation using GNNs in GRAND [Arsène]

Denoising Radio Pulses from Air Showers Using Machine Learning Methods [Aurélien]

Calculation of the Exposure of GRANDProto300 to Cosmic Rays [Sei]

Optimizing HERON for 100 PeV Neutrino Detection [Andrew Zeolla]

Few-author posters

Signal Model and Energy Recon. for Radio Det. of Inc. Air Showers in 50-200 MHz Freq. Band [Lukas]

ML composition discrimination [Washington]

ICRC 2025: planning

- ► Geneva, July 15–24
- ▶ Important dates (internal and official):
 - ▶ January 15: working-group (WG) chairs send proposed topics, speakers to pubcomm
 - ▶ January 17: final date for WG chairs to confirm proposed topics and speakers
 - ▶ January 18: pubcomm contacts speakers directly to confirm participation
 - ▶ January 24: internal deadline for abstract submission for internal review
 - ► February 21: end of internal abstract review
 - ▶ March 14: abstract submission deadline
 - ► April 30: early registration deadline
 - ▶ June 13: internal deadline for authors to submit proceeding to pubcomm for internal review
 - ▶ June 27: internal deadline for reviewers to send reports about proceedings
 - ▶ July 01: start of final 48-hour pre-submission internal review of proceedings
 - ▶ July 01: internal deadline for authors to submit slides to pubcomm for internal review
 - ▶ July 05: official deadline for preliminary proceeding submission
 - ▶ July 10: internal deadline for reviewers to send reports about slides
 - ▶ July 15: start of the conference
 - ▶ September 16: official deadline for final proceeding submission

ICRC 2025: proceedings

- ▶ Proceeding drafts due in pubcomm: June 13
- ▶ Use the ICRC PoS LaTeX template PubComm sent: www.overleaf.com/read/qnrbxwcfwrpr#fd20f4
- ► Clone the Overleaft project and edit
- ▶ Instructions: see p. 2 of the template (also: my e-mail to grand-in on May 17)
- ► Each draft will be assigned 1 or 2 reviewers
- ▶ Reviewer reports due June 27
- ▶ Revised proceeding draft due July 01
- ➤ Proceedings will be sent to the ICRC and uploaded to arXiv on July 05





Title of Contribution

Name1 Surname1, a,* Name2 Surname2 a and Name3 Surname3 a,b for the GRAND Collaboration

(a complete list of authors can be found at the end of the proceedings)

a Institution A

^bInstitution B

E-mail: presenter@inst.edu

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer di, vulputate a, magna. Donce vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placera. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donce varius orci eget risus. Duis nibh mi, congue eu, accumsan elefend, sagitifs quis, diam. Duis eget orci si tamet orci dignisism rutro.

The 39th International Cosmic Ray Conference (ICRC2025) 14 – 24 July, 2025 Geneva, Switzerland

*Speaker

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https://pos.sissa.it/

ICRC 2025: new figure approval

- ▶ All new figures in ICRC proceedings and slides **must** receive second-tier approval
- ► First-tier approval: approval within forum
- ▶ Second-tier approval: approval in an umbrella meeting
- ▶ Can use today's umbrella meeting here in Warsaw to seek figure approval
- ▶ If you cannot seek approval in that umbrella meeting, contact pubcomm by June 13
- ► Late requests for approval are not guaranteed to be granted
- ▶ More information: see GRAND figure usage guidelines <u>here</u>

GRAND prototypes paper

- ► First full draft now available! [wiki: 24 grand 03]
- ▶ Paper leaders: Beatriz & Shen
- ▶ Thanks to everyone that contributed new measurements, new plots, etc.: Stavros, Xu Xin, Pengfei, Pengxiong + others!
- Status: draft v1 under review
 - ▶ Two dedicated reviewers: João & Olivier
 - ▶ Also open to feedback from the full Collaboration

Deadline to send feedback to PubComm: June 16

▶ Plan to upload the paper to the arXiv before the start of the ICRC (July 14)

GRAND Prototypes: GRANDProto300 and GRAND@Auger

The GRAND Collaboration

The Giant Radio Array for Neutrino Detection (GRAND) Collaboration aims to probe ultra high energy (UHE) messengers, more specifically detect UHE neutrinos and hopefully start neutrino astronomy. For this, radio detection of air showers is explored with proposed self triggered radio antenna arrays, measuring events in the 50-200 MHz range. GRAND is being built and validated in stages, with its first prototype arrays deployed in 2023 at different locations around the world. GRANDProto300, in China, aims to detect cosmic rays in the 100 PeV to 1 EeV range, validating the GRAND detection concept. GRAND@Auger, in Argentina, has the goal to cross-validate GRAND's detection and reconstruction methods with events measured in coincidence with the detectors from the Pierre Auger Observatory. GRAND@Nancay, in France, serves as an easy access testbench for the European laboratories. Together, these are the pathfinders for GRAND's later stage of 10.000-antenna arrays, one at each hemisphere. In this paper, the prototype arrays are reviewed, the GRAND detection concept is presented with both its hardware and software descriptions, the data management strategy is reported, and the first measured data are discussed

Keywords: GRAND, Air showers, Radio Detector, Pierre Auger Observatory

1. Introduction

Preprint submitted to

The Giant Radio Array for Neutrino Detection (GRAND) is

The GRAND@Auger prototype (G@A) results from an an ultra-high energy (UHE) multi-messenger observatory. The 36 agreement between the GRAND and Pierre Auger (Auger) Col-4 Collaboration aims to reach the sensitivity needed to detect at laborations to repurpose 10 AERA (Auger Engineering Ra-5 UHE neutrinos and to explore a rich science case (1). These 26 dio Array) stations in Argentina. The deployment was com-6 goals are to be achieved with large arrays of self-triggered 30 pleted in August 2023, when the 10 Detection Units (DUs) radio antennas spread around the world. GRAND is to be 40 were made operational by GRAND Collaboration teams with 8 built and validated through stages. Currently, there are three 41 the aid of the local staff of the Pierre Auger Observatory. The prototype arrays deployed in 2023, all running in parallel:

superposition of GRAND's and Auger's detector arrays allows

superposition of GRAND's and Auger's detector arrays allows.

superposition of GRAND's array arrays allows.

superposition of GRAND's array arra GRAND@Nancay in Nancay, France, GRANDProto300 in the searches for air shower events in time coincidence at the setups. Gobi desert in China, and GRAND@Auger in Malargüe, Ar- 44 It is also ideal for the validation of GRAND's reconstruction

antennas each, one in the northern and another on the south-47 equally validates the GRAND detection concept, which allows 15 ern hemisphere. The prototypes form the pathway to these 48 for cross-checks with GP300. larger arrays, with sets of corresponding specified goals, 49 During the deployment and commissioning phases, differ-GRAND@Nançay is a small array of four antennas at the so ent configurations of the same instrumentation were chosen for 18 Nançay Radio Observatory. It was idealized as an easy access 51 each prototype array. This made it possible to evaluate vari-19 for European laboratories, facilitating testbenching of equip- 52 ous hardware and software performances, and thus better probe ment and new ideas in design, trigger, and data acquisition. ss the options for the next stages. It was also made apparent

GRANDProto300 (GP300) will be the 300-antenna st that distinct site environments and hemispheres require specific pathfinder for GRAND in the northern hemisphere, covering so characteristics of the setup, such as heat and moisture counteran area of 200 km². When fully deployed, it should detect 50 measures, hibernation conditions, and tailored trigger settings, 24 UHE cosmic rays between 100 PeV and 1 EeV probing the 57 which hinder having a common setup to all sites. Such con-25 galactic to extra-galactic transition region. The GP300 site is 50 clusions are of special relevance given GRAND's final goals, 8 located north of Dunhuang, in a relatively radio quiet region in 80 although they make the prototype's commissioning more chal-27 the 50 to 200 MHz range. By June 2023, the deployment of the 60 lenging. 28 first 13-antenna stage was completed. During its almost two 61 In this paper, an overview of the 13 and 65-antenna stages of 29 years of operation, it has allowed the validation of the GRAND @ GP300 and of G@A is given, as well as a presentation of their detection concept and the improvement of the system design. 60 first data. The performance of both setups are compared, taking

to test the efficiency and purity of the detection of inclined air 34 showers.

45 performance through event-by-event comparisons with known GRAND's next stage will consist of two arrays of 10,000 4 Auger detected air showers. Furthermore, the G@A prototype

By May 2025, the first extension, from 13 to 65 antennas, was of into consideration that the commissioning phase for GP300's deployed. This 65-antenna stage is currently running and aims 65 deployed. This 65-antenna stage is not yet completed. The sites and array lay-

Publications policy discussion: corresponding authors

Our current publications policy (approved by the Board in 2023) states that

"Publications authored by the Collaboration do not feature corresponding authors nor do they highlight e-mail addresses of particular authors." However, the Collaboration Board is aware that, for the purposes of funding, employment, or otherwise, Members that were involved in a particular task or analysis related to GRAND may require this to be acknowledged. In those cases, the Member may request a letter from the Collaboration spokesperson (and, also, from other Collaboration members, if desired) detailing their specific contributions."

Some members have expressed that this is not a suitable solution for them.

Do we want to reconsider? If yes, what would be the policy change?

Publications policy discussion: few-author papers 1/2

- ▶ Our current policy states that papers that use internal, unpublished GRAND resources (data, simulations, human resources) are by default Collaboration papers
- ▶ But, we *also* do not want to prevent members from writing few-author papers
 - ► GRAND few-author guidelines [wiki <u>here</u>]
 - ▶ If the proposed few-author paper uses internal GRAND resources that are deemed by the Board as non-essential or insufficient to support a Collaboration paper on their own, it can be allowed to be a few-author paper
- ▶ We are in the process of refining this policy and want your opinion

Publications policy discussion: few-author papers 2/2

Using internal, unpublished **GRAND** experimental data:

A proposed few-author paper that wishes to use internal, unpublished GRAND experimental data may only do so if the Board decides that these data do not contain or potentially contain results that would be of importance to the Collaboration to publish as a collective.

Publications policy discussion: few-author papers 2/2

Using internal, unpublished GRAND experimental data:

A proposed few-author paper that wishes to use internal, unpublished GRAND experimental data may only do so if the Board decides that these data do not contain or potentially contain results that would be of importance to the Collaboration to publish as a collective.

Using internal **GRAND** simulations:

Thanks to Matías for his suggestions!

A proposed few-author paper that wishes to use internal, unpublished GRAND simulations may only do so if the simulations do not include the state-of-the-art GRAND detector response in them (in the form of, *e.g.*, the radio-frequency chain of the experiment).

The Publications Committee chair will invite Collaboration members that were heavily involved in the generation of the simulations in question to coauthor the proposed few-author paper.

Planning future GRAND papers

For today (GP300, G@A)

- ► First GRAND cosmic-ray paper (When? Will we have the statistics? What to show?)
- ▶ Non-cosmic-ray papers? (Some ideas proposed on Monday's science session)

For the future (near + far) (GRAND10k, HERON)

- ► Forecasts of discovery of UHE v diffuse flux models in GRAND10k à la 2210.03756 (Yifei Li + Mauricio, to start)
- ► Estimate rate of backgrounds for neutrino Searches in detail
- ► Re-compute the GRAND neutrino effective area (basis for other studies)
- ► GRAND + BEACON: using BEACON to locate sources and GRAND to look deeper (smaller trials-factor correction)

Reminder: important dates

June 13:

Deadline for ICRC authors to send their proceeding draft to PubComm

June 16:

Deadline for feedback on the GRAND prototypes paper