

sPHENIX Publication Policy

1. Introduction

This document spells out the Publication Policy of the sPHENIX Collaboration and describes the procedures by which the collaboration will release physics results. It begins with a list of guiding principles on which this policy is based. This document does not supersede, interfere with or contradict the bylaws of the collaboration.

The Publication Policy should:

- lead, in a timely fashion, to the release of data, dissemination of results and discussion of their significance in a refereed journal and/or presentations at public lectures.
- result in high quality publications.
- be clear, well defined and understandable by the whole collaboration.
- not be burdensome and overly bureaucratic.
- clearly establish authority to make decisions. In particular, there needs to be a well-defined process which
 - determines how the paper is initiated and moved forward in a timely fashion, at all stages of the publication process,
 - decides what are the conclusions of the paper,
 - determines the choice of the journal where the paper will be submitted
- ensure that there is adequate internal documentation for publications.
- ensure published numerical results, with uncertainties, are correct and clearly presented.
- ensure that the publication language is of high quality without mandating minor style choices which should largely be left to the primary paper authors.
- ensure that the publications are understandable by the audience of the intended journal/forum.
- clearly state rules by which results are made public.
- fairly treat members of the collaboration and ideally lead to a constructive and collegial publication process.

2. Paper Approval Process

2.1 Roles

The following roles are defined in other documents:

- TG Topical Group
- TGC Topical Group Conveners
- IB Institutional Board
- (co)SP Spokesperson or co-Spokespersons
- DE&I Diversity, Equity and Inclusion Committee
- PB Publication Board
- PBC Publication Board Chair
- PC Physics Coordination

The following new roles are defined here:

- PPG Paper Preparation Group - the committee writing the paper. The PPG takes primary responsibility for the analysis, internal analysis note, and paper. The PPG generally comprises sPHENIX members directly involved in the analysis, either directly or supervising the analysis, and generally should include more than one person. The PPG Contact(s) (PPGC) are generally the primary person (people) who did the analysis and selects the PPG. Cases where agreement on PPG membership cannot be reached within the PPG will be adjudicated by the TGC and/or PC.
- IRC Internal Review Committee - the committee responsible for reviewing the paper. There is a separate IRC for each paper named to review the analysis, documentation, paper drafts, and any supplemental materials on behalf of the collaboration. The IRC comprises a chair (IRCC) and at least two regular members. One of the regular members will be designated as the English checker. The IRC should ensure that the analysis code is well documented and publicly available and that the documentation is sufficient to run the code, according to the standards defined by the collaboration. The IRC should generally reach a consensus on the state of the paper and its documentation and whether or not the paper is ready to advance through the approval process. Generally, people should serve on no more than one IRC at a given time and membership should be equitably distributed across the collaboration for those at the postdoc or higher level. IRC members should not be at the same institution(s) as the PPG members. The IRC membership is decided by the Publication Board, but suggestions for IRC members can be made to the Publication Board by the PPG and TGC. IRC members should have the available time to spend on the IRC work so as not delay the paper.

2.2 Documents

In order to ensure that the results and collaboration discussion are well documented, the following document types are defined:

- Internal Analysis Note (IAN)¹ The goal of the IAN is to document the analysis in a sufficient level of detail that a senior graduate student or post doc would be able to repeat the analysis. It should include information about code, code versions, quality assurance, and details necessary to assess the accuracy of the analysis. The IAN is not expected to be a publication-quality document, but it should be coherent and complete. It may refer to other analysis notes, but the PPG and IRC should ensure that the combination of those notes is sufficient to reproduce the analysis. ¹ The IAN shall be versioned and available to anyone in the collaboration, along with a record of comments on and revisions of the IAN. The authors on the IAN are those who were responsible for the note and authorship implies that the author understands the content of the note.
- Paper Draft The paper draft shall be versioned and available to anyone within the collaboration with a list of IANs supporting the paper. The source files, figures, and planned supplemental materials for the paper will be available in a central place to allow for revision of the paper during the collaboration or journal review process. Papers may have supplemental plots which will be posted online but not included in

¹ IANs may be released without an association with a particular paper. ¹

the journal submission which do not require any information beyond that available in the paper itself (e.g. extra centrality bins which do not fit in the body of the paper). Such plots should be included and captioned in the appendix of the paper draft.

- Conference Note A conference note has the same information as a paper draft, albeit with a shorter review process.
- Papers Papers are expected to be submitted to the arxiv to be shared in the community. Most papers are expected to be submitted to refereed journals but it is not necessary that a paper be submitted to any journal.

2.3 Comments to documents

Input from the collaboration is an essential part of the publication process. For the purposes of clarity, comments to documents are divided into two categories:

- Type I comments include suggestions on matters of substance including but not limited to descriptions, results, strategy, paper structure, format, emphasis, conclusions, methods, references, additions/subtractions, changes to tables and figures, if the paper is suitable for the chosen journal, and if it is written at a level which addresses the readership of the intended journal, etc.
- Type II comments include but are not limited to very straightforward suggestions about the grammar, formatting, spelling, tense, or voice of the paper.

The PPG needs to respond in writing to all Type I comments at all stages of the collaboration review process. Type II comments do not need specific responses. Comments and replies are to be available publicly to any collaborator.

2.4 Steps

The steps of the publication review process are summarized in Figure 1 and a more detailed description of each step is given below.

- PPG documents analysis within Topical Group. The analyzers should first develop their analysis within the appropriate Topical Group that best suits the contents of their analysis. The first step is that the PPG should be formed and discuss their intent to pursue a particular analysis topic in an “analysis kickoff” meeting within the respective topical group. PPG membership may evolve from there (see corresponding discussion in Section 3). As the analysis develops, the PPG should then continue to develop the analysis within the TG meetings. Documenting the analysis within the TG can consist of any number of presentations within the TG meetings, where the presentations should convey the analysis techniques and methods used to determine the final result. Feedback from the TG should be considered to help improve the analysis; it is the role of the TGC to ensure that substantive comments are taken into account by the primary analyzers. The PPG is expected to develop the IAN throughout the process of analyzing the data, so that the IAN accurately reflects the analysis methods and procedures used. In the event of an analysis having significant overlap between two TGs, it is the responsibility of both the TGC for the primary TG and PPGC to ensure that the analysis has been discussed in all relevant TGs. If the TGC or PPG is aware of substantive objections to the

analysis from the TGC of other groups, the analysis should generally not proceed until those issues are resolved. The TGC hold the authority to move to the next step, requesting that the PB appoint an IRC.

- TGC request PB to appoint an IRC . When the IAN is sufficiently complete to allow for an IRC to review the details and the message of the analysis, the TGC are responsible for requesting that the PB form an IRC.

- IRC review of analysis. The IRC reviews the IAN and the analysis completeness. Feedback from the IRC should be taken into account to improve the analysis and corresponding documentation. The IRC and TGC are expected to assist the PPG in reviewing the IAN in a mutually agreed upon time frame. Note that IRC and TGC review of the IAN can occur in parallel with one another. Each group holds the joint authority to approve the analysis and corresponding IAN and move to the next step of writing the paper draft.

- PPG prepares paper draft: Upon approval from the IRC and TGC on the analysis and accompanying IAN, the PPG should select a target journal for the publication in conjunction with the TGC and IRC **and with approval of PC.** At this point, the PPG should prepare a paper draft which will document the analysis and result in a peer reviewed journal publication. Upon completing the draft paper, the IRC and TGC should review the draft and provide comments/feedback to improve the description of the physics result in a mutually agreed upon time frame. It is expected that the PB will check on the paper status regularly to ensure that progress is being made. Comments from the IRC and TGC should be addressed by the PPG to prepare the draft to be reviewed by the collaboration as a whole. The IRC holds the authority to move to the next step of releasing the paper draft to the collaboration for review.

- First circulation to the collaboration: The draft paper will then be released to the collaboration for review and comments in the first circulation to the collaboration. The first circulation period will normally last 2 calendar weeks from the announcement date; however, the PBC may lengthen or shorten this period in special circumstances (e.g. for a very long paper, more time may be needed) but it should be at least five Brookhaven working days. The first circulation period will give all collaboration members the opportunity to provide comments and feedback about the analysis and/or paper draft. It is expected that substantial comments regarding e.g. the physics message, analysis methods, or selected journal will be raised in the first circulation period. Comments should be provided to the PPG separated into two categories corresponding to Type I and Type II comments. In addition to the opportunity for all collaboration members to comment on the paper draft, a representative from the PB and one of the (co)SP (or their delegate) is assigned to read the paper at this stage. Two institutions will also be selected by the PBC to read and provide comments on the paper draft.

- PPG selects comments for discussion: At the end of the first circulation period, the PPG and IRC should select important, substantial, and/or controversial comments that were received by the collaboration to discuss at the plenary session. The PPG can propose and discuss responses for these comments to the IRC in preparation for the discussion at the plenary session.

The paper draft automatically moves to the plenary discussion after the first circulation period, so the PPG and IRC are expected to converge on any comments and proposed responses for discussion at the plenary session by the time of the discussion. The plenary discussion is scheduled and organized by the PBC.

- Plenary discussion. The plenary discussion of the paper draft is an opportunity for the PPG to present their work to the collaboration in an open discussion about the paper results and draft. The PPG should prepare a presentation which summarizes the analysis and presents the major results of the paper. The presentation should also contain any major comments and the PPG's proposed responses that the PPG and IRC agreed should be discussed amongst the collaboration in the previous step. The meeting is open to the entire collaboration. Therefore, collaboration members have the opportunity to discuss questions/comments that were made in the first circulation period with the PPG members. The PBC (or deputy) is responsible for summarizing the decision of the collaboration to go ahead with the paper. In the case of major issues identified with the analysis, the PBC can ask that the paper go back to the TGC/IRC for major analysis revisions. In this exceptional situation, the paper would then need to go through the first collaboration circulation again.

- PPG prepares revised draft. After the plenary discussion, the PPG prepares a revised draft considering all comments and explicitly responding to Type I comments provided by the collaboration. If Type I collaboration comments are not implemented by the PPG, reasoning should be provided. All comments and the PPG's responses to those comments should be made available to the collaboration. The IRC is responsible for verifying that all comments are adequately addressed in the revised draft.

2.5 Second circulation to the collaboration

- Upon IRC sign off, the paper draft undergoes a second circulation to the collaboration. The second circulation will normally last for 1 calendar week but at least four Brookhaven working days, and provides the collaboration an opportunity to review the comments and PPG responses from the first circulation. It is the last opportunity for the collaboration to provide any additional comments. It is expected that collaboration comments in the second circulation are generally Type II comments and that the focus lies on language, format, and clarity of the paper and final results.
- PPG prepares revised draft. After the second circulation, the PPG prepares a revised draft that implements the collaboration comments. Similarly to the first circulation, all comments will be considered and any remaining type I comments must be explicitly responded to. The IRC is responsible for verifying that all comments in the second circulation have been properly addressed by the PPG.
- Final sign off by (co)SP: Following the IRC approval, the (co)SP may choose to provide additional comments to the text before approving the paper to be submitted to the journal. The IRCC should confirm that any final comments by the (co)SP were addressed by the PPG before submission. After final sign off by the IRCC and (co)SP, the paper may be submitted to the journal.

Preliminary Results

In certain circumstances, there is a desire to show a preliminary result. The purpose of preliminary results is to communicate results at a conference before the final publication is submitted to the journal. It is expected that there will be only one preliminary result of a given observable for a given data set. Only in exceptional cases where both the PB and (co)SP overrule can a preliminary result be superseded by another preliminary result. There are two ways to obtain preliminary results to show publicly.

1. After the Plenary Discussion of a paper draft the PPG may request that the draft be made into a Preliminary Note. In this case, the plots from the paper should be marked as "Preliminary" and the draft of the paper itself will be released as a Conference Note to support the plots.

2. A targeted Preliminary Result where there is a known improvement in the result to be made; for example, if it is known that only 50% of the data was used for the result, or if a particular systematic uncertainty will be improved upon with a forthcoming calibration, etc.

The flowchart for preliminary approval is shown in Figure 2 and is similar to the publication flow chart in Figure 1. In the case of the first type of preliminary result, the paper draft can be used as the accompanying CONF-note that supports the plots that will be shown as preliminary. For the second type of preliminary result, the components of the flow chart that refer to the paper draft should be replaced by a CONF-note as described in Section 2. The CONF-note will still have a first collaboration circulation period; however, this will last for 1 week in most cases but can be as few as four Brookhaven working days if decided upon by the PB.

Figure 1: Publication policy flowchart. The authority to move to the next step belongs to the role in parentheses at each step. If multiple arrows point into a single box, they are each required to move to the next step.

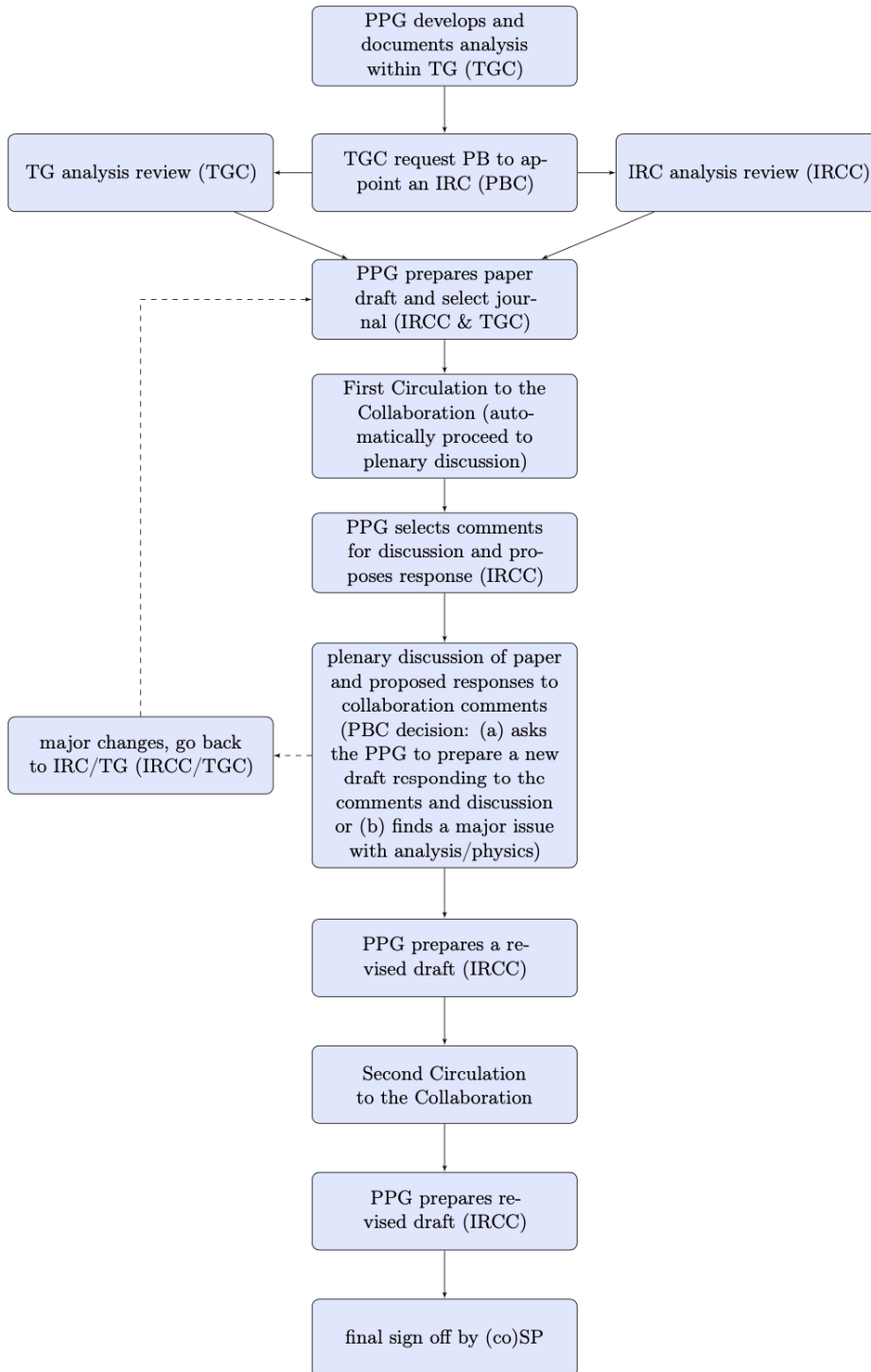


Figure 2: Preliminary Note flowchart. The authority to move to the next step belongs to the role in parentheses at each step. If multiple arrows point into a single box, they are each required to move to the next step.

