

Review Process Bylaws

- Motivations:** There is an urgency to clarify the procedure for big data processing and common-tool reviews after the lesson learned with 1st publication effort, anticipating the progressive involvement of an increasing number of run-groups and diverse physics studies.
- Goals:**
- Make review process more effective \leftrightarrow timely and reliable
 - Create standard (reference) procedures \leftrightarrow reproducibility, consistency
 - Boost physics outputs and data preservation
- Approach:**
- Follow the bylaws strategy to assign clear responsibility
 - to RGs for data calibration and cooking (section F)
 - to PWGs for data analysis and scientific results (section D2)
 - Distinguish scopes to minimize the interferences between the various review stages and keep flexibility to not limit the data mining
 - Archive information for knowledge preservation and easy access

Pass1 Review


Pass1 review

F. Data Calibration and Cooking

III Data-cooking

Given the amount of resources involved, the cooking of a significant set of data is approved using the following two-steps procedure:

- *) The Run Group prepares a note showing that all the steps in preparation of data processing are completed. This comprises list of runs, calibration constants and procedures, reconstruction efficiency evaluation, data quality timelines, sub-detector status, event definition, survey of the main reaction channels, ancillary information availability, software and manpower.
- *) The note is reviewed and the data cooking approved by a committee designated by the CCC. The mandate to serve in such a committee is for a maximum of two years or four reviews (renewable). Not more than half of the committee composition is renewed at a time to ensure a consistent action.
- *) After the cooking, the Run Group complements the note with the cooking statistics and quality assessment, the list of golden runs passing the data quality, and all the available information for the best use of the processed data.
- *) The same committee reviews the complete note and approves the data production as qualified for the release of physics analyses.



Required resources call for an organized process

Potential conflicts in the resource allocation are managed at CCC level.

Pass1 review

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Written note to help committee and provide a consistent reference

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*) The note is reviewed and the data cooking approved by the committee of figures based on the mandate by the CCC. The mandate to serve in such a committee is renewable. Not more than half of the committee can be replaced in a consistent action.

Items derived from the present well-trained pass-1 review charges

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Define a time to ensure a consistent action but also allow renovation

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Pass1 review

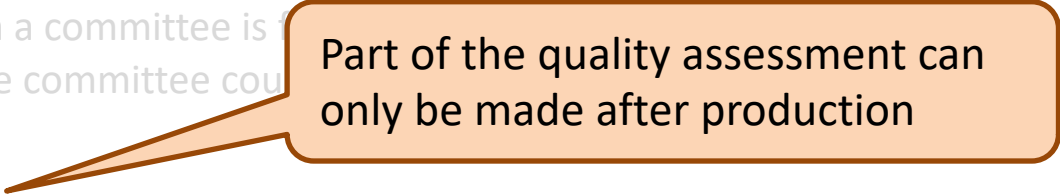
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Part of the quality assessment can only be made after production

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Analysis can start early and even assist cooking, but PWG reviews need the RG quality assessment of the data set

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Standard Methods

Standard Methods

D2. Bylaw Governing the Release of CLAS Scientific Results

4. Procedure for the definition of standard methods

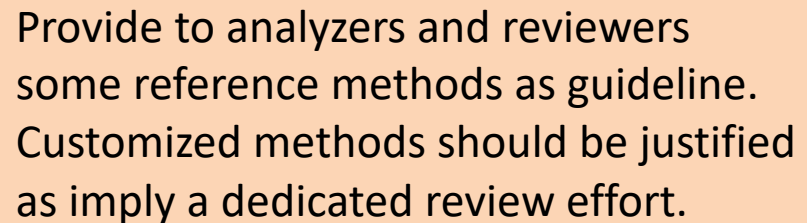
In preparation of a scientific result, the exploitation of standard methods for the data and simulation treatment are encouraged as should facilitate the approval process, consistency in the released analyses and data preservation. During a physics analysis review, non-standard methods require justification and dedicated reviews, while already approved standard methods require just a proper use verification.

Examples of potential standard methods are: fiducial volume cut, particle identification, radiative correction, simulation generator, background estimation, etc.

A proposal with a single or a group of methods can be submitted by a group of collaborators or even a single author if endorsed by a committee designated by the interested PWGs with one representative for each PWG and two or more members selected from a permanent pool of experts (detector and software). A new standard method could complement, partially revise or supersede a previous standard method.

A standard method should be provided with a note explaining the procedure, the range of validity and data set of applicability, one or more parameters to tune the wanted precision, a metric to validate the correct use (i.e. check plots), tags of keywords identifying the topic, and a public code.

A library of the approved standard methods is overseen by the PWGs, to provide the available status-of-the-art methods as reference for physics analyses and related reviews.



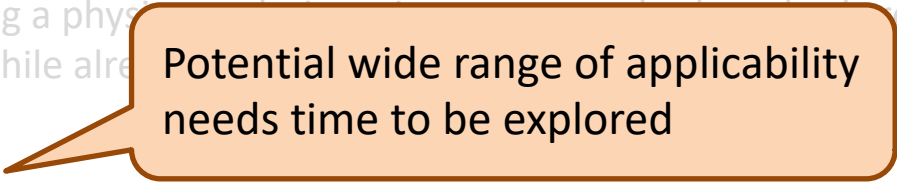
Provide to analyzers and reviewers some reference methods as guideline. Customized methods should be justified as imply a dedicated review effort.

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Potential wide range of applicability
needs time to be explored

Examples of potential standard methods are: fiducial volume cuts, momentum correction, particle ID, radiative correction, simulation generator, background subtraction.

A proposal with a single or a group of methods can be submitted to the relevant PWGs by a group of collaborators or even a single author if endorsed by PWG. A standard method is approved by a committee designated by the interested PWGs with one representative for each PWG and two or more members selected from a permanent pool of experts (detector and software). A new standard method could complement, partially revise or supersede a previous standard method.

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Examples of potential standard methods include radiative correction, simulation ge

Flexible and independent procedure with a specific scope. Compatible with common tools aka recent “stage-1 review” but also open to specific needs.

ID,

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A standard method should be provided with a note explaining the procedure, the range of validity and data set of applicability, one or more parameters to tune the wanted precision, a metric to validate the correct use (i.e. check plots), tags of keywords identifying the topic, and a public code.

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Examples of potential standard methods are: fiducial volume cuts, momentum correction, particle ID, radiative correction, simulation generator, background subtraction.

A proposal with a single or a group of methods can be submitted to the relevant PWGs by a group of collaborators or even a single author if endorsed by PWG. A standard method is approved by a committee designated by the interested PWG and two or more members selected from a permanent pool of experts. A standard method could complement, partially revise or replace an existing standard method.

Standard method should be useful and offer a practical guideline

A standard method should be provided with a note explaining the procedure, the range of validity and data set of applicability, one or more parameters to tune the wanted precision, a metric to validate the correct use (i.e. check plots), tags of keywords identifying the topic, and a public code.

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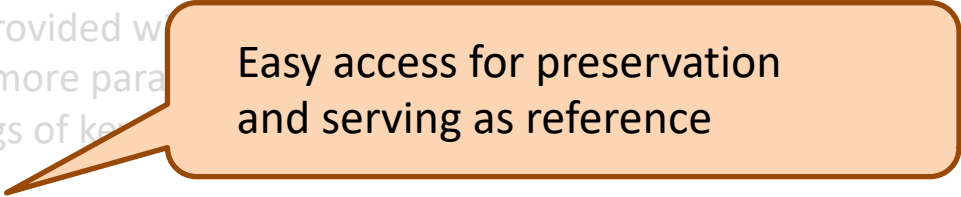
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Examples of potential standard methods are: fiducial volume cuts, momentum correction, particle ID, radiative correction, simulation generator, background subtraction.

A proposal with a single or a group of methods can be submitted to the relevant PWGs by a group of collaborators or even a single author if endorsed by PWG. A standard method is approved by a committee designated by the interested PWGs with one representative for each PWG and two or more members selected from a permanent pool of experts (detector and software). A new standard method could complement, partially revise or supersede a previous standard method.

A standard method should be provided with a data set of applicability, one or more parameters of validity and correct use (i.e. check plots), tags of key words to validate the



Easy access for preservation
and serving as reference

A library of the approved standard methods is overseen by the PWGs, to provide the available status-of-the-art methods as reference for physics analyses and related reviews.

Proposed for Approval

F. Data Calibration and Cooking

III Data Cooking

Given the considerable resources involved, the cooking of a Run Group data set is approved using the following two-steps procedure:

- *) The Run Group prepares a note showing that all the steps in preparation of data processing are completed. This comprises a list of runs, calibration constants and procedures, reconstruction efficiency evaluation, data quality timelines, sub-detector status, skim definitions, survey of the main reaction channels, ancillary information availability, software versions, required resources and manpower.
- *) The note is reviewed and the data cooking approved by a committee of five members designated by the CCC. The mandate to serve in such a committee is for a minimum of two years or four reviews (renewable). Not more than half of the committee could be replaced at any given time to ensure a consistent approach to these reviews.
- *) After the data cooking, the Run Group complements the note with the cooking statistics and quality assessment, the list of golden runs passing the basic data quality requirements, and all available information for the best use of the processed data.
- *) The same committee reviews the complete note and approves the data production as qualified for the release of physics results.

Potential conflicts in the resource allocation are managed at CCC level.

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4. Procedure for the definition of standard methods

In the preparation of a scientific result, the exploitation of standard methods for the treatment and analysis of both data and simulation are encouraged in order to facilitate the approval process, consistency in the released analyses, and long-term data preservation. During a physics analysis review, non-standard methods require justification and dedicated reviews, while already approved standard methods require just a proper use verification.

Examples of potential standard methods are: fiducial volume cuts, momentum corrections and kinematic fitting, particle identification, radiative corrections, simulation event generators, and background subtraction.

A proposal to adopt a new standard method can be submitted to the relevant PWGs by a group of collaborators or even a single author if endorsed by the PWG. A standard method will be approved by a committee designated by the interested PWGs with one representative for each PWG and two or more members selected from a permanent pool of experts (detector and software). A new standard method could complement, partially revise, or supersede a previous existing standard method.

A standard method should be provided with a note explaining the procedure, the range of validity and data set of applicability, the parameters to be tuned to the desired precision, a metric to validate its correct use (i.e. check-plots), tags of keywords identifying the topic, and a public code.

A library of the approved standard methods is overseen by the PWGs to provide the available state-of-the-art methods as a reference for physics analyses and related reviews.