

Thoughts on publications

TUM group

1 Publication policy

2 Publication Pipeline

3 Analysis Review Process

4 Paper proposal

1 Publication policy

- Appreciate concise & flexible draft by Igor ✓
- Propose minor changes:
 - shift responsibility **from spokesperson to an Editorial Board** (which includes spokesperson)
 - include **all collaborators in review pool**, not only PIs

1. Physics papers

Physics papers are defined here as the ones that present scientific results of the experiment. Papers that provide a description of the MONUMENT instrument or experiment-specific analysis methods may also be considered Physics papers if they include the experimental data. For every Physics publication, **the spokesperson** appoints at least two internal referees, **at least one of which should be a MONUMENT Principal Investigator (PI)**. Physics papers can be signed by all qualifying collaborators. A person qualifies to sign MONUMENT papers if they are a member of the Collaboration for one full calendar year at the time the paper draft is first circulated to the Collaboration. Authorship eligibility ends one year after a person has left the Collaboration. A person may qualify for authorship of a specific paper regardless of how long they have been a member if they made a significant contribution to that paper. The decision of granting the contribution-based authorship is made by **the spokesperson in consultation with the PIs** reviewing the manuscript. The PIs are responsible for ensuring that all qualifying members of their group are added to the author list, for the correct spelling of the names of their group members and institutions, and for the correct attribution of their funding agencies on every paper. Physics papers will list authors in alphabetical order by family name.

2. Technical papers

Publications that are related to the MONUMENT experiment that provide description of the MONUMENT instrument or experiment-specific analysis methods and R&D but that do not use the data from the experiment are considered Technical papers. The PI of the group writing a Technical paper is responsible for the content and authorship of the paper. Typically, a Technical paper is signed only by the group performing the R&D, unless it describes the design or performance of the whole of the MONUMENT instrument, in which case the paper is signed by the Collaboration.

3. Theory papers

Theory papers are those that present calculations of relevant nuclear physics properties and comparison of such calculations with the MONUMENT data and results of its analysis. The PI of the group writing a theory paper is responsible for the content and authorship of the paper. If a MONUMENT collaborator writes a theory paper that utilizes the MONUMENT data, then the theory paper should be submitted after the relevant data is analyzed and published by the Collaboration.

4. Conference proceedings

MONUMENT collaborators that plan to submit a conference Proceeding should ensure that the content of the article does not contradict the content of the official MONUMENT papers. The draft of the Proceeding should be sent to **the spokesperson** at least two weeks ahead of the deadline. **Proceedings should list the speaker as first author, followed by “for the MONUMENT Collaboration”.**

Near-final drafts of conference Proceedings, Technical, and Theory papers should be sent to the *spokesperson* to ensure that aspects related to the MONUMENT project are represented adequately. **The spokesperson may delegate other PIs** that possess appropriate expertise to read the manuscripts. Deviations from the above general rules could be suggested on a case-by-case basis and will be decided by **the spokesperson in consultation with the Collaboration PIs**.

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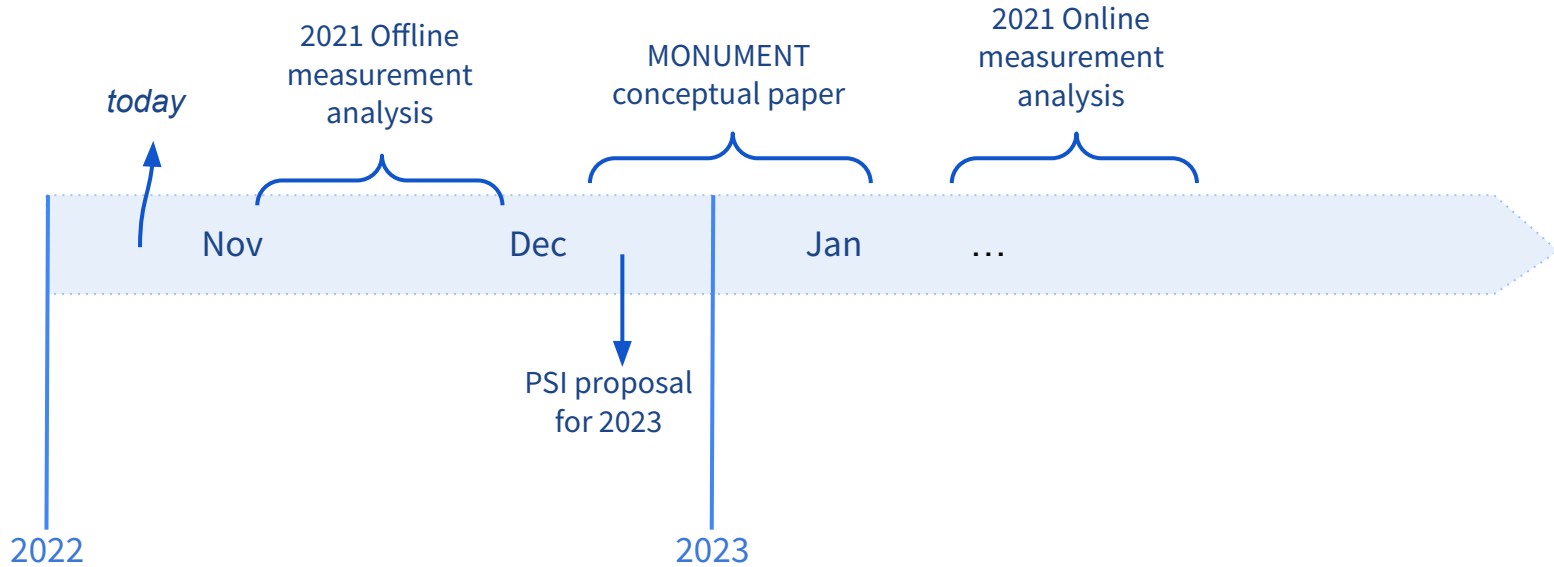
2 Publication Pipeline: general remarks

- **TUM** group doesn't have any immediate urge of publication
- But, we acknowledge and will support constraints of other institutions
- We need a **realistic plan**: already mid-November and we shouldn't forget the beam time proposal has to be written before the end of the year.

2 Publication Pipeline: work available for publication

1. 2021 ^{76}Se and ^{136}Ba beamtime results
 - 1.1. physics paper
 - 1.2. analysis status:
 - 1.2.1. MIDAS analysis not reviewed by collaboration → establish proper **analysis review process (see 3)**,
 - 1.2.2. LLAMA analysis not ready
 - 1.2.3. We encourage publication of both analysis together → avoiding contradicting results**
2. 2021 offline measurements
 - 2.1. physics paper
 - 2.2. Analysis ready, pending review, paper text almost ready (proceedings)
3. Conceptual MONUMENT paper
 - 3.1. physics paper (includes performance extracted from 2021 data)
 - 3.2. Analysis almost ready (energy calibration, efficiency calibration, ... for both LLAMA and MIDAS)
 - 3.3. **TUM** would volunteer to lead this (see 4)

2 Publication Pipeline: proposal



3 Analysis Review Process

Prior any collaborative publication including results:

- all analysis steps and procedures should be available for review by the full collaboration
- it is the duty of the people performing the analysis to prepare the reviewing material (analysis notes, presentations, ...)
- sufficient time should be allocated and devoted for this task
- when the analysis review has been completed and approved by the collaboration, results are ready to be published.

4 Paper proposal: MONUMENT conceptual paper

TUM volunteers for this work

Title: The MONUMENT Experiment: Ordinary Muon Capture for Double-beta Decay

Potential Journal: JINST?, NIM?, EPJC?

1. Introduction (0.5 pages, motivation of physics goal)
2. Measurement principle (1.5 pages, description of measurement concept, and relevant performance parameters)
3. The MONUMENT experiment (> 3 pages, detailed description of the setup)
 - 3.1. Target chamber and muon counters
 - 3.2. HPGe detector array
 - 3.3. Electronics and data acquisition
 - 3.4. Analysis procedures (Energy reconstruction, calibration, time reconstruction, ...)
4. Performance (> 3 pages, description of 2021 beamtime performance, and outlook for 2022/2023)
 - 4.1. Counter rates (PMT spectra and coincidence rates, total number of muon captures per target)
 - 4.2. HPGe detector performance (resolution curves, efficiency curves)
5. Conclusions and outlook

Requires both MIDAS & LLAMA data

Back up

Re Izyan's points

1. OMC data from PSI 2019 campaign
 - a. Publish under the collaboration at the time of the measurements
(i.e. TUM not involved at the time)
2. Qualifying member issue:
 - a. PI of the group decides
3. Clarification of PIs and spokesperson
 - a. PIs *are* the leading persons of each of the groups present in the MONUMENT collaboration, i.e., Prof. Schönert for **TUM**
4. Proceedings authorship
 - a. "At least" the speaker doesn't prevent having more authors

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