

Paper Submission Form - SAIP2025 Proceedings

Sections A, C, D, and E must be completed by all authors (including students) who submit papers. Section B is compulsory for students who submit manuscript(s).

Section A: Paper Submission Information

Paper/Abstract ID	208
Paper title	TileCoM Firmware Developments for ATLAS Tile Calorimeter Phase II Upgrade
Corresponding Author Name & Surname:	Brenton Munhungewarwa
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Section B: For Students & Supervisors

Supervisor Name & Surname:	Mpho Gololo
Supervisor Email Address:	mphog@uj.ac.za

For this paper, the supervisor must agree/disagree with the following statements.

	Yes	No
1. I am aware that the above-mentioned paper is being submitted for possible publication in the Proceedings of the SAIP Conference. I am satisfied that the presented work is that of the listed authors. I hereby give consent to the submission	X	
2. I have proof-read the manuscript	X	
3. I am satisfied that the manuscript is written in appropriate English and is sufficiently free of grammatical and spelling errors	X	
4. I am familiar with the required manuscript format ("House Style"), and I am satisfied that this manuscript meets the criteria. I am aware that manuscripts not conforming with House Style may be desk rejected	X	
5. I am satisfied that the scientific content of this manuscript is of sufficient standard for it to be considered for publication in the Proceedings of the South African Institute of Physics Conference Proceedings	X	

Student Name & Surname: Brenton Munhungewarwa Signature:  Date: 31/07/25

Supervisor Name & Surname: Mpho Gololo Signature:  Date: 31/07/25

Section C: Suggested Reviewers

Obtaining the two referee reports necessary for DHET subsidy is an onerous task.

Please provide the names and contact details of three qualified South African and/or international referees. Referees should have a PhD and expertise in the relevant area of Physics. Do not recommend referees who have co-authored a work with any of the authors on the manuscript within the past five (5) years. Manuscripts without three recommended referees may be subject to desk rejection.

Suggested Reviewers in your Research Field (Both local & international)

	Reviewer Names & Surname	Reviewer's Email Address(es)
Suggested reviewer #1	Fernando Argos	fernando.cario@cern.ch
Suggested reviewer #2	Edward Nkadimeng	edward.khomotso.nkadimeng@cern.ch
Suggested reviewer #3	Ryan Mckenzie	ryan.mckenzie@wits.ac.za

Section D: Declaration of Novelty and Use of AI

How is this submitted manuscript scientifically novel?

The manuscript is scientifically novel as it presents the integration and validation of the TileCoM firmware and monitoring system for the ATLAS TileCal Phase-II upgrade. It demonstrates real-time sensor data acquisition and visualization using a custom OPC UA server on a Zynq MPSoC, with successful live testing at CERN. This work ensures reliable monitoring under HL-LHC conditions and contributes to the long-term robustness of the ATLAS detector.

Please see the Author Guidelines for the AI use policy.

How was AI used in the generation of this manuscript?

No generative AI was used in this manuscript. Gramarly was used to improve readability of the manuscript.

Section E: Plagiarism

	Yes
I am aware that plagiarism detection software may be used on my manuscript.	X