

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	207
Paper title	Particle Flow Algorithm (PFA) for forward region jet reconstruction with the ATLAS Inner Tracker (ITk) detector setup at the High Luminosity Large Hadron Collider (HL-LHC)
Corresponding Author Name & Surname:	Thabo James Lepota
Corresponding Author Email Address:	568571@students.wits.ac.za

Section B: For Students & Supervisors

Supervisor Name & Surname:	Mukesh Kumar	Rachid Mazini
Supervisor Email Address:	Mukesh.kumar@wits.ac.za	rachid.mazini@wits.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: Thabo James Lepota Signature: Date: 31/07/2025

Supervisor Name & Surname: Mukesh Kumar Signature: Date: 31/07/2025

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	Dr. Mark Hodgkinson	m.hodgkinson@sheffield.ac.uk
Suggested reviewer #2	Dr. Edward Nkadimeng	Edward.khomotso.nkadimeng@cern.ch
Suggested reviewer #3	Dr. Ntsoko Rapheeha	Ntsoko.phuthi.rapheeha@cern.ch

Section D: Declaration of Novelty and Use of AI

How is this submitted manuscript scientifically novel?

It extends core particle flow algorithm capabilities to a kinematic region and detector regime that were previously inaccessible, using customised algorithmic and reconstruction methods justified by real detector performance and simulation studies

Introduces new reconstruction and calibration strategies specific to the forward region and HL-LHC environment

Validates these methods with empirical data and provides practical steps for full ATLAS implementation, thus pushing the frontier of jet and MET reconstruction in high energy physics

Please see the Author Guidelines for the AI use policy.

How was AI used in the generation of this manuscript?

It was used for grammar and readability.

Section E: Plagiarism

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