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	290
Paper title	Energy Loss as a Probe of Quark-Gluon Plasma Formation Across Collision System Size
Corresponding Author Name & Surname:	Coleridge Faraday
Corresponding Author Email Address:	frdcol002@myuct.ac.za

Section B: For Students & Supervisors

Supervisor Name & Surname:	William A. Horowitz
Supervisor Email Address:	wa.horowitz@uct.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		
2. I have proof-read the manuscript		
3. I am satisfied that the manuscript is written in appropriate English and is sufficiently free of grammatical and spelling errors		
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		
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		

Student Name & Surname: Coleridge Faraday **Signature:** **Date:** 31st July 2025

Supervisor Name & Surname: W A Horowitz **Signature:** **Date:** Jul 31, 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	Isobel Kolbe	isobel.kolbe@wits.ac.za
Suggested reviewer #2	Azwinndini Muronga	Azwinndini.Muronga@mandela.ac.za
Suggested reviewer #3	Liliana Apolinario	liliana@lip.pt

Section D: Declaration of Novelty and Use of AI

How is this submitted manuscript scientifically novel?

This work introduces a statistically constrained energy loss model, developed by the authors, that includes small-system-size corrections to the energy loss. These corrections allow us to make novel predictions for small (p + A, d +A, O + O) collision systems with a model that is constrained to heavy-ion collision data using a rigorous statistical analysis. We present first predictions for O + O collisions that will be compared to experimental data (once the data is available from experiemnts) from the first O + O measurements done at the Large Hadron Collider. Our framework additionally advances the field by rigorously considering various theoretical uncertainties that have, until now, been ignored.

Please see the Author Guidelines for the AI use policy.

How was AI used in the generation of this manuscript?

To the extent that AI was used in this work, it was only used to improve the readability, grammar, and writing of the text. All text was checked for errors by the author. Nothing substantive (that effects the physics) in the text was produced using AI.

Section E: Plagiarism

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