

# 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	391
Paper title	Synthesis and characterization of TiO <sub>2</sub> :Evaluation for possible application as light trapping layer in thin film solar cell.
Corresponding Author Name & Surname:	Rida Jaffar
Corresponding Author Email Address:	<a href="mailto:rjaffar6424397@gmail.com">rjaffar6424397@gmail.com</a> and mbuleps1@unisa.ac.za

## Section B: For Students & Supervisors

Supervisor Name & Surname:	P.S Mbule
Supervisor Email Address:	mbuleps1@unisa.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: Rida ...Jaffar.....Signature: 

Date: ..28.July 2025

Supervisor Name & Surname: Prof Pontsho Mbule

Signature: 

Date: 28 July 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	Prof LF Koao	koaolf@ufs.ac.za
Suggested reviewer #2	Prof TD Malevu	Malevu.td@gmail.com
Suggested reviewer #3	Dr PP Mokoena	Puseletso.mokoena@spu.ac.za

Section D: Declaration of Novelty and Use of AI

How is this submitted manuscript scientifically novel?

In this work, TiO<sub>2</sub> NPs synthesized via the sol–gel method and annealed at 500 °C for 3 h showed significant Structural and optical improvements. XRD and Raman analysis confirmed the anatase phase with enhanced crystallinity after annealing. SEM revealed better particle uniformity, while UV–Vis results indicated a slight band gap reduction due to increased particle size. SCAPS-1D simulations have shown that these improvements can possibly have a positive impact on the performance of CH<sub>3</sub>NH<sub>3</sub>PbI<sub>3</sub>-based perovskite solar cells.

Please see the Author Guidelines for the AI use policy.

Artificial Intelligence (AI), specifically language models like ChatGPT, was used only to assist with grammar correction, sentence structuring, and improving clarity. All synthesis procedures, graphical design, literature searching, data analysis, and scientific writing were entirely conducted and verified by the authors.

Section E: Plagiarism

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