

# 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	# 82
Paper title	Physiochemical, optical, and magnetic properties of nickel-magnesium ferrite nanoparticles for various applications
Corresponding Author Name & Surname:	Sifiso Thulani Moris Nxumalo
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## Section B: For Students & Supervisors

Supervisor Name & Surname:	Wendy Bonakele Mdlalose
Supervisor Email Address:	mdlalosew@ukzn.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: Sifiso Nxumalo

Signature: 

Date: 31 July 2025

Supervisor Name & Surname: Wendy Mdlalose

Signature: 

Date: 31 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. G Mhlongo	GMhlongo@csir.co.za
Suggested reviewer #2	Dr P Biyela	BiyelaPN@unizulu.ac.za
Suggested reviewer #3	Dr A Nhlapo	amos.nhlapo@smu.ac.za

## Section D: Declaration of Novelty and Use of AI

This work presents a novel approach to tuning the structural, optical, and magnetic properties of spinel ferrite nanoparticles through controlled Ni substitution using the glycol-thermal method. The study uniquely demonstrates a systematic reduction in crystallite size and band gap, alongside a significant enhancement in saturation magnetization. These effects are confirmed through comprehensive characterization, highlighting the potential of these materials for advanced biomedical and electronic applications

Please see the Author Guidelines for the AI use policy.

### How was AI used in the generation of this manuscript?

An artificial intelligence-based tool was utilised during the process of preparing the manuscript to check the spelling and grammar, thus guaranteeing that the content was clear, coherent, and easy to read overall.

## Section E: Plagiarism

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