

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	58
Paper title	Fluorinated Graphdiyne Under Strain: A First-Principles Study of electronic and optical properties
Corresponding Author Name & Surname:	Dr. Neelam Saghir
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Section B: For Students & Supervisors

Supervisor Name & Surname:	Prof. G. J. Rampho
Supervisor Email Address:	ramphjg@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: Neelam Saghir Signature:  Date: 13-07-2025

Supervisor Name & Surname: G. J. Rampho Signature:  Date: 13-07-2025.

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. R R Mphanga	maphangarr@yahoo.com
Suggested reviewer #2	Dr. M Bghour	m.bghour@uiz.ac.ma
Suggested reviewer #3	Dr. K A Dompreh	kwadwo.dompreh@ucc.edu.gh

Section D: Declaration of Novelty and Use of AI

How is this submitted manuscript scientifically novel?

The submitted manuscript is scientifically novel in the following ways:

Strain-Engineered F-Doped Graphdiyne (FGDY): It investigates the combined effect of fluorine doping and mechanical strain (biaxial and uniaxial) on the electronic and optical properties of graphdiyne, a material not extensively studied in this dual context.

Directional Optical Response: It reports anisotropic behavior under different strain conditions, revealing tunable dielectric and absorption characteristics that are polarization-dependent—a new insight into strain-optical coupling in doped GDY.

First-Principles Insight: The work provides first-principles (DFT-based) quantification of how strain modifies the band structure, optical absorption edge, and dielectric constants of FGDY, contributing to design principles for flexible optoelectronic devices.

Please see the Author Guidelines for the AI use policy.

How was AI used in the generation of this manuscript?

AI tools were employed to standardize reference formatting (e.g., converting to IEEE style), align figure captions with journal style, and maintain consistency in scientific terminology.

Section E: Plagiarism

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