

# 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	432
Paper title	Gamma-Gamma Coincidence Analysis of Low-Medium Spin States in $^{156}\text{Er}$
Corresponding Author Name & Surname:	NOOBILE NONHLANHLA KHANYEZA
Corresponding Author Email Address:	nqobi.khanyeza1@gmail.com

## Section B: For Students & Supervisors

Supervisor Name & Surname:	SIYABONGA MAJOLA
Supervisor Email Address:	smajola@uj.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: NQOBILE KHANYEZA.....Signature: .....  Date: ...31/07/2025.....

Supervisor Name & Surname: Siyabonga Majola..... 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 S.P Bvumbi	suzanphumudzo@gmail.com
Suggested reviewer #2	Dr Bongani Maqabula	bmaqabuka77@gmail.com
Suggested reviewer #3	Dr Lumkile Msebi	lmsebi@uwc.ac.za

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

### How is this submitted manuscript scientifically novel?

This study presents a revised interpretation of Band 9 in  $^{156}\text{Er}$ , previously identified as a positive-parity sequence. Through detailed coincidence analysis and intensity relationships, we propose that this band instead originates from a newly identified negative-parity band head. The work reassigned key transitions, including the 365 keV transition, which was earlier believed to link Band 9 to the yrast  $10^+$  state. This reinterpretation challenges previous spin-parity assignments and provides new insight into the structure of  $^{156}\text{Er}$  at low to medium spin, contributing to the broader understanding of competing configurations in deformed even-even nuclei in the  $A \sim 160$  mass region.

**Please see the Author Guidelines for the AI use policy.**

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

OpenAI's ChatGPT assisted with LaTeX formatting. Grammarly assisted with language refinement and Perplexity AI was used to identify relevant literature and related sources. All content was critically reviewed and edited by the author to ensure accuracy and academic integrity.

## Section E: Plagiarism

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