

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 | 359 |
| Paper title | Discriminating multiprong jet substructure |
| Corresponding Author Name & Surname: | Hannah van der Schyf |
| Corresponding Author Email Address: | 1586749@students.wits.ac.za |

Section B: For Students & Supervisors

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|----------------------------|-----------------------|
| Supervisor Name & Surname: | Deepak Kar |
| Supervisor Email Address: | Deepak.kar@wits.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: Hannah van der Schyf Signature: *Hannah van der Schyf* Date: 23-07-2025

Supervisor Name & Surname: Deepak Kar Signature: *Deepak Kar* Date: 26/07/2025

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. Kevin Barends | kevin.barends@uct.ac.za |
| Suggested reviewer #2 | Dr. Rachid Mazini | rachid.mazini@wits.ac.za |
| Suggested reviewer #3 | Dr Thi Ngoc Loan Truong | ltruong@uj.ac.za |

Section D: Declaration of Novelty and Use of AI

How is this submitted manuscript scientifically novel?

Jet substructure is an extremely useful tool in high energy physics analysis to discriminate between background and signal events. This study considers using substructure variables to determine jets with multiprong structure of more than 3 prongs. Something which has been scarcely considered. Discriminating 4 prong jets could be extremely valuable for future analysis and topology studies.

Please see the Author Guidelines for the AI use policy.

How was AI used in the generation of this manuscript?

Section E: Plagiarism

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