

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	059
Paper title	What are the most suitable basic irradiance models for Southern Africa?
Corresponding Author Name & Surname:	Sindiswa M. Figlan
Corresponding Author Email Address:	sindiswafiglan@gmail.com

Section B: For Students & Supervisors

Supervisor Name & Surname:	Hartmut Winkler
Supervisor Email Address:	hwinkler@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: ...Sindiswa Figlan Signature: 

Date: ... 28 Jul 2025

Supervisor Name & Surname: Hartmut Winkler Signature: 

Date: 28 Jul 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	Ernest E. van Dyk	ernest.vandyk@mandela.ac.za
Suggested reviewer #2	Sophie Mulaudzi	sophie.mulaudzi@univen.ac.za
Suggested reviewer #3	Frederik Vorster	frederik.vorster@mandela.ac.za

Section D: Declaration of Novelty and Use of AI

How is this submitted manuscript scientifically novel?

The paper highlights some of the results of an MSc study carried out by the first author. Most of the models investigated here had never been applied to irradiance data from Southern Africa. The model parameters have also been specifically optimised for local conditions. The comparison of the ability of the various models to replicate the measured data is also new. The fact that some models with only two scaling parameters provide such good fits to the measured irradiance data means that computational simplifications are possible that can greatly speed up calculations of forecasts and other products derived from irradiance. Finally, the investigation of the impact of aerosols on model scaling parameters offers the opportunity to use model fitting to determine aerosol concentrations.

Please see the Author Guidelines for the AI use policy.

How was AI used in the generation of this manuscript?

Apart from routine use of search engines to identify previous papers with information relevant to this study, no artificial intelligence was used in the preparation of this manuscript.

Section E: Plagiarism

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