

# 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	051
Paper title	Adiabatic elimination approach to the completely positive master equation for open quantum Brownian motion
Corresponding Author Name & Surname:	Ayanda Zungu
Corresponding Author Email Address:	arzngu@gmail.com

## Section B: For Students & Supervisors

Supervisor Name & Surname:	Prof. Ilya Sinayskiy
Supervisor Email Address:	sinayskiy@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	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: Ayanda Zungu ..... Signature: ..... Date: 31 July 2025

Supervisor Name & Surname: Prof Ilya Sinayskiy ..... 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	Dr Gareth Kemp	gkemp@uj.ac.za
Suggested reviewer #2	Prof Mark Tame	mstame@sun.ac.za
Suggested reviewer #3	Dr Mervlyn Moodley	Moodleym2@ukzn.ac.za

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

### How is this submitted manuscript scientifically novel?

The proceedings outlines the derivation of the new results.

We present a microscopic derivation of the CPTP master equation for the OQBM<sup>s</sup>, which has not been reported elsewhere.

The derivation is accompanied by numerical examples demonstrating rich dynamical behaviour of the obtained master equation.

Please see the [Author Guidelines for the AI use policy](#).

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

AI was not 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