WITS OPTICS STUDENT CHAPTER

Join us for an exciting talk in our

Webinar Series

SA QuTI South African Quantum Technology Initiative

Entanglement-imaging through scattering media

by Dr. Hugo Defienne

Entanglement is a key resource in quantum technologies. Without a classical equivalent, it ensures the superior performance of quantum systems over classical ones—provided it plays a non-trivial role in the process. In optical imaging, however, demonstrating the essential role of entanglement is often challenging. Most applications focus on optical correlations derived from entangled states—correlations that can usually be reproduced by classical states—making these correlations the central feature of imaging systems rather than entanglement itself. In our work, we explore imaging scenarios where entanglement plays a critical and non-trivial role. In this presentation, I will review several quantum imaging methods developed in recent years and (try) to clarify the respective roles of correlations and entanglement. And of course there will be pictures of cats!

25 SEPTEMBER, 10AM
ENGINEERING SEMINAR ROOM
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