A class of Bell diagonal entanglement witnesses in C^4 ⊗ C^4 : optimization and the spanning property

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Abstract

In this talk, I will be discussing two classes of Bell diagonal indecomposable entanglement witnesses in C^4 ⊗ C^4. The first class is a generalization of the well-known Choi witness from C^3 ⊗ C^3 , while the second one contains the reduction map. I will show contrary to C^3 ⊗ C^3 case, the generalized Choi witnesses are no longer optimal. Thereafter, I will talk about an optimization procedure for finding spanning vectors that eventually give rise to optimal witnesses. Operators from the second class turn out to be optimal, however, without the spanning property. I will also discuss the concept of mirrored entanglement witnesses. Our analysis sheds a new light into the intricate structure of optimal entanglement witnesses.

Venue

PAMU Seminar Hall

A.N. Kolmogorov Building,
ISI, Kolkata

Date & Time

20th March, 2023
02:30 PM

Everyone is invited to attend

Head, PAMU