ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 17 March 2016

17:00 -18:00

3rd Floor Seminar Room

"Majorization relations in Gaussian quantum information theory"

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Abstract

Majorization relations have long been known to play a key role in quantum information theory. For instance, they provide a preorder relation between bipartite pure states that implies the existence of a (deterministic) LOCC transformation between them. They also express a necessary separability (non-distillability) condition for bipartite mixed states. In this talk, I will review the recent progress on the role of majorization relations in continuous-variable quantum information theory, especially in relation with Gaussian optical channels. I will exhibit fundamental majorization relations in optical components, such as beam splitters or parametric amplifiers, and will discuss their application in analyzing the interconversion between bimodal Gaussian states as well as proving longstanding entropy conjectures for bosonic Gaussian channels.