

ENTANGLEMENT AND STEERING WITNESSES FOR GAUSSIAN STATES*

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Dedicated to Dr. Dan Tiba on the occasion of his 70th anniversary

Abstract

We present a short review on the subject of witnesses based on second moments as a primary tool for the efficient detection of entanglement and steering. In particular, we focus on the example of Gaussian states, which represent the core toolbox for the vast domain of continuous variable states. We fully define and characterise the entanglement and steering Gaussian witnesses, respectively, and then present a set of linear constraints as an alternative characterisation that allows for the implementation of a numerical optimisation semidefinite programming algorithm.

We have the great pleasure to dedicate this paper in the honour of Professor Dan Tiba on the occasion of his 70th Anniversary and to wish him a long life in good health and further success in his scientific activity.

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