



DEPARTAMENTO DE FÍSICA

UNIVERSIDAD DE SANTIAGO DE CHILE

SEMINARIO ONLINE

**Mi 03
NOVIEMBRE
15.30 Hrs.**

ON QUANTUM RESOURCE THEORIES

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ABSTRACT

In the prospering field of quantum technologies one aims at employing quantum mechanical properties as resources for tasks such as quantum computing, sensing, communication and simulations. In recent years, so-called quantum resource theories have been developed. They provide an elegant tool for quantifying a quantum resource, and for analysing its conversion properties. An overview of the state of the art is given, and the general structure of a quantum resource theory is exemplified via purity and coherence, including an extension of the latter concept to generalised measurements. A hierarchy of quantum resources is established for quantum states with both discrete and continuous variables, answering the quest for the most fundamental resource.



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