



Universidad de Valladolid



Challenges in Certifying Quantum Teleportation: Moving Beyond Conventional Fidelity Benchmark

Diego Bussandri

Departamento de Física, Teórica, Atómica y Óptica, Valladolid

Abstract: The conventional certification method for quantum teleportation protocols relies on surpassing the highest achievable classical average fidelity between target and teleported states. In this talk we are going to discuss the limitations of this approach: inconsistent conclusions can be obtained when it is considered different distance measures in the quantum state space, leading to contradictory interpretations. Notably, this behavior takes place for one of the most famous models for noise in quantum teleportation such as standard quantum teleportation with a Werner state as the protocol resource. Our work, therefore, stresses the necessity of new certification methods for quantum teleportation.



13:00

November 29, 2023

Sala Grados I, Fac. Ciencias



Financiado por
la Unión Europea
NextGenerationEU



MINISTERIO
DE CIENCIA
E INNOVACIÓN

TR Plan de Recuperación,
Transformación
y Resiliencia



NOS
IMPULSA

 Junta de
Castilla y León