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SEMINARIO DE GRAVITACIÓN Y COSMOLOGÍA

En colaboración con el Grupo de Teorías de Campos y Física Estadística del Instituto Universitario Gregorio Millán Barbany, Universidad Carlos III de Madrid, Unidad Asociada al IEM-CSIC

Miércoles 25 de junio de 2014, 12:00 h.

Statistical and entanglement entropy for black holes in quantum geometry

Abstract: I will discuss the relationship between entanglement (or geometric) entropy with statistical mechanical entropy of horizon degrees of freedom when described in the framework of isolated horizons in loop quantum gravity. We show that, once the relevant degrees of freedom are identified, the two notions coincide. The key ingredient linking the two notions is the structure of quantum geometry at Planck scale implied by loop quantum gravity, where correlations between the inside and outside of the black hole are mediated by eigenstates of the horizon area operator.

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