

Institut Ruđer Bošković
ZAVOD ZA TEORIJSKU FIZIKU
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ZAGREB, HRVATSKA

SEMINAR ZAVODA ZA TEORIJSKU FIZIKU

(Zajednički seminari Zavoda za teorijsku fiziku,
Zavoda za eksperimentalnu fiziku IRB-a i Fizičkog odsjeka PMF-a)

Entanglement entropy for noncommutative BTZ; Can entanglement entropy explain the black hole entropy?

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Abstract:

The entanglement entropy is a fundamental quantity which characterizes the correlations between sub-systems in a larger quantum-mechanical system. For two sub-systems separated by a surface the entanglement entropy is proportional to the area of the surface and depends on the UV cutoff which regulates the short-distance correlations. This naturally poses a question as to whether the entanglement entropy can account for the black hole entropy. In this talk entanglement entropy for the noncommutative BTZ black hole will be presented and it will be compared with other results for the NC BTZ entropy, obtained by different approaches, particularly that of the 't Hooft's brick wall model.

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