

Meeting PRIN "String Theory as a bridge between Gauge Theories and Quantum Gravity"



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Corrections to the thermodynamics of AdS_5 black holes and the superconformal index

Thursday, 23 February 2023 16:00 (45 minutes)

We consider a four-derivative extension of minimal gauged supergravity in five dimensions and use it to evaluate the on-shell action of AdS_5 black holes, showing that it fully matches the result from the superconformal index “on the second sheet” after imposing supersymmetry. We then compute the corrected black hole thermodynamics and we find a formula of the BPS entropy as a function of the charges. The latter is shown to match both the Legendre transform of the superconformal index and the Wald entropy. Based on 2208.01007 [hep-th] and on work in progress.

Presenter: RUIPEREZ, Alejandro (Roma Tor Vergata)