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A new index for a new black hole

Tuesday 3 September 2024 17:00 (30 minutes)

In 2012.08530 a supersymmetric black hole with spindle horizon was constructed, displaying some striking new features and opening up at least two lines of investigations. Firstly, prompted by the new black hole in the past three years several new supergravity solutions based on orbifolds have been constructed in the literature. Moreover, via holography, these results motivated the study of supersymmetric field theories defined on orbifolds. This program was initiated in 2303.14199, where a new index, unifying and generalising the superconformal and topologically twisted indices, was introduced and named the *spindle index*. The recent paper 2404.07173 analyses the large N limit of the spindle index thus deriving the microstates of a very general class of supersymmetric, rotating and accelerating black holes. This completes the construction of the first example of a holographic duality involving supersymmetric field theories defined on orbifolds with conical singularities.

Link to publication (if applicable)

<https://arxiv.org/abs/2012.08530>

<https://arxiv.org/abs/2303.14199>

<https://arxiv.org/abs/2404.07173>

Author: MARTELLI, Dario (Università di Torino and INFN Torino)

Presenter: MARTELLI, Dario (Università di Torino and INFN Torino)

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