Contribution ID: **83** Type: **not specified**

M2- and D3-branes wrapped on a spindle

Tuesday, 15 December 2020 16:00 (30 minutes)

We consider the Plebanski-Demianski family of solutions of minimal gauged supergravity in d=4, which describes an accelerating, rotating and charged black-hole in AdS4. The 4d metric has conical singularities, but we show that it can uplifted to a completely regular solution of d=11 supergravity. We focus on the supersymmetric and extremal case, where the near-horizon geometry is AdS2 x \Sigma, where \Sigma is a spindle, or weighted projective space. We argue that this is dual to a d=1, N=(2,0) SCFT which is the IR limit of a 3d SCFT compactified on a spindle. This, in turn, should be realized holographically by wrapping a stack of M2-branes on a spindle. Such construction displays two interesting features: 1) supersymmetry is realized in a novel way, which is not the topological twist, and 2) the R-symmetry of the d=1 SCFT mixes with the U(1) isometry of the spindle. A similar idea also applies to a class of AdS3 x \Sigma solutions of minimal gauged supergravity in five dimensions.

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No

Length of talk

15-25 minutes

Are you happy for your talk to be recorded?

No

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Session Classification: Parallel Stream 3