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M2- and D3-branes wrapped on a spindle

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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 AdS_4 . The 4d metric has conical singularities, but we show that it can be uplifted to a completely regular solution of $d=11$ supergravity. We focus on the supersymmetric and extremal case, where the near-horizon geometry is $AdS_2 \times \Sigma$, where Σ 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 $AdS_3 \times \Sigma$ solutions of minimal gauged supergravity in five dimensions.

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Will you be pre-recording your talk?

No

Length of talk

15-25 minutes

Are you happy for your talk to be recorded?

No

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