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Talk 11: David Turton

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Title: Smooth horizonless geometries deep inside the black-hole regime

The study of black hole microstates in string theory is an important problem, which offers the potential to resolve the information paradox. I will present the first family of horizonless supergravity solutions that have the same mass, charges and angular momenta as general supersymmetric rotating D1-D5-P black holes in five dimensions. This family includes solutions with arbitrarily small angular momenta, deep within the regime of quantum numbers and couplings for which a large classical black hole exists. These geometries are well-approximated by the black hole solution, and in particular exhibit the same near-horizon throat. I will also discuss the physics of an observer falling into a black hole.