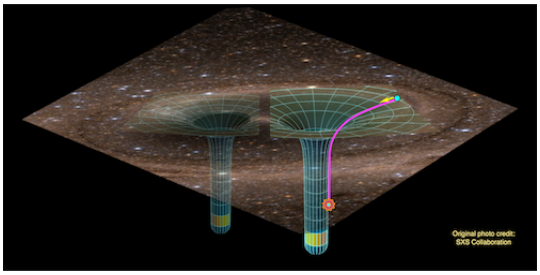

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Black Holes in string theory with duality twists.

vendredi 12 juin 2020 12:00 (1 heure)

We consider 5D supersymmetric black holes in string theory compactifications that partially break supersymmetry. We compactify type IIB on T^4 and then further compactify on a circle with a duality twist to give Minkowski vacua preserving partial supersymmetry (N=6,4,2,0) in five dimensions. The effective supergravity theory is given by a Scherk-Schwarz reduction with a Scherk-Schwarz supergravity potential on the moduli space, and the lift of this to string theory imposes a quantization condition on the mass parameters. In this theory, we study black holes with three charges that descend from various ten-dimensional brane configurations. For each black hole we choose the duality twist to be a transformation that preserves the solution, so that it remains a supersymmetric solution of the twisted theory with partially broken supersymmetry. We discuss the quantum corrections arising from the twist to the pure gauge and mixed gauge-gravitational Chern-Simons terms in the action and the resulting corrections to the black hole entropy.

Recorded version https://youtu.be/BMzNHx2wSWo

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