



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Holographic description of non-BPS orbifolded D1-D5-P solutions.

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Extremal Black hole microstate geometries have been well studied in the context of the black hole information puzzle and fuzzball proposal. Non-extremal black hole microstates are much more interesting but less explored. Using the AdS/CFT prescription, we identify a general class of dual states of non-supersymmetric orbifolded D1-D5-P supergravity solutions (JMaRT). The dual CFT states can be obtained by fractional spectral flow both in the left and right sectors. In the gravity side, these states correspond to the degrees of freedom living in the cap region of the geometry. We compute the massless scalar emission spectrum and emission rates both in the gravity and CFT sides and show that they match perfectly, thus providing strong evidence for our identification. We also investigate the physics of ergo-region emission as a pair creation for these orbifolded solutions. Our results represent the largest class of non-supersymmetric black hole microstate geometries with identified CFT duals presently known.