

## ICTS Seminar

Title : Non-BPS D1-D5-P solutions and gravitational instantons

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Date : Wednesday, January 4, 2017

Time : 10:30 AM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : 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. Our results represent the largest class of non-supersymmetric black hole microstate geometries with identified CFT duals presently known. We also discuss an alternative and more direct way to construct three charge, doubly rotating JMaRT solutions as charged Myers-Perry instantons. We present the inverse scattering construction of 5D MP instanton and add charges to it using appropriate  $SO(4,4)$  hidden symmetry transformation. This construction is an extension and simplification of a previous work by Kleinschmidt et al.