

Black hole entropy from quantum mechanics

Monday 9 January 2023 10:00 (25 minutes)

I will discuss a holographic duality between a family of seven dimensional supersymmetric black holes and superconformal quantum mechanics on the moduli space of $SU(N)$ Yang-mill instantons. The duality predicts a particular exponential growth of degeneracy of BPS states of the quantum mechanics which must reproduce the black hole horizon formula. This exponential growth has been proven rigorously in the case of $U(1)$ instantons and we have good evidence for the growth in the $SU(N)$ case.

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