J Astrophys Aerospace Technol 2017, 5:4(Suppl)
DOI: 10.4172/2329-6542-C1-015

Quantum aspects of black objects in string theory

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One of important directions in superstring theory is to reveal the quantum nature of black hole. In this talk we embed Schwarzschild black hole into superstring theory or M-theory, which we call a smeared black hole, and resolve quantum corrections to it. Furthermore we boost the smeared black hole along the 11th direction and construct a smeared quantum black 0-brane in 10 dimensions. Quantum aspects of the thermodynamic for these black objects are investigated in detail. We also construct fuzzy objects as bound states of D0-branes, which would correspond to microstates of the smeared black 0-brane.

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