



Contribution ID : 377

Type : **Talk**

Supergravity from Gauge Theory

Friday, 29 July 2016 17:50 (20)

Gauge/gravity duality is the conjecture that string theories have dual descriptions as gauge theories. Weakly-coupled gravity is dual to strongly-coupled gauge theories, ideal for lattice calculations. I will show precision lattice calculations that confirm large- N continuum D0-brane quantum mechanics correctly reproduces the leading-order supergravity prediction for a black hole's internal energy—the first leading-order test of the duality—and constrains stringy and quantum corrections.

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Session Classification : Physics Beyond the Standard Model

Track Classification : Physics Beyond the Standard Model