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Heavy-light mesons from AdS/CFT

Thursday 27 September 2007 17:00 (30 minutes)

In this talk I show how heavy-light mesons can be studied using the AdS/CFT correspondence. For this I embed two D7 brane probes at different positions into the dual supergravity background. I establish the non-Abelian Dirac-Born-Infeld (DBI) action for these probes which involves a 2×2 matrix. The off-diagonal elements of this $U(2)$ fluctuation matrix correspond to the heavy-light mesons, while the diagonal elements correspond to the light-light and heavy-heavy mesons, respectively. Among other results, I find that heavy-light mesons scale differently with the 't Hooft coupling than the mesons involving quarks of equal mass.

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