

Phenomenology 2019 Symposium



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Cancellations in Spin-2 KK Mode Scattering Amplitudes at High Energies

Tuesday 7 May 2019 16:45 (15 minutes)

We report the results of computations of the scattering amplitudes for massive spin-2 Kaluza-Klein particles in compactified five-dimensional theories of gravity. We demonstrate that different classes of diagrams individually grow as energy to the tenth power as expected, but that intricate cancellations among different diagrams reduce this growth to energy-squared. We show that these cancellations occur in both toroidal and AdS (Randall-Sundrum) compactifications of five-dimensional gravity, though the energy scale controlling the rate of growth is rather different in these two cases.

Summary

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