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# Aspects of Trans-Planckian Scattering

We study scattering processes at the center of mass energies much larger than the Planck scale, and at small impact parameters. Using the S-matrix formalism for gravity, we investigate the formation and evolution of black hole intermediate states. We assume that the gravitational S-matrix obeys the properties of unitarity, analyticity, crossing and causality.

**Primary author:** Dr GRIGORYAN, Hovhannes (New York University)

**Presenter:** Dr GRIGORYAN, Hovhannes (New York University)