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Toward a phase diagram for longitudinal string interactions

Strings interact over a range that grows linearly with energy in the longitudinal direction of relative motion between them. This leads to contributions to scattering and black hole mining that go beyond effective field theory, as a result of the large non-local energy invariant near black hole horizons. In this talk, we summarize this and explain new calculations of the timescale for this effect, incorporating the string spreading effects in the Eikonal resummation as well as generalizing to include inelastic and inclusive processes.