

Tuesday, October 31st @ 2pm
Schwinger Lounge

“Aspects of eikonal scattering”

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Abstract: I will discuss the eikonal scattering of two gravitationally interacting bodies, showing that exponentiation of the scattering phase matrix is a direct consequence of the group contraction $SU(2) \rightarrow ISO(2)$, in the large angular momentum limit. The emergence of the classical limit is understood in terms of the continuous-spin representations admitted by $ISO(2)$. We will compare the competing classical and quantum corrections to the leading classical eikonal scattering in the transplanckian regime and discuss how classical observables are extracted from the scattering phase matrix. I will conclude by describing some ongoing attempts at extending the formalism for scattering of large spin objects.