

Physics Seminar: Gabriel Cuomo
Wednesday, March 5 · 2:00 – 3:00pm

Location: 313

Title: The EFT of Large Spin Mesons

Abstract: As well known, mesons with large spin J in large N_c QCD can be described as rotating open strings using effective field theory (EFT). However, some subtleties arise for light quarks, due to the breakdown of the derivative expansion near the endpoints. I will describe a consistent treatment of such endpoints' singularities and obtain results, in a systematic $1/J$ expansion, for the spectrum of the leading and daughter Regge trajectories. Interestingly, the redshift factor associated with the quarks' acceleration implies that the applicability regime of the EFT is smaller than for static fluxtubes. Depending on time, I will also mention some extensions of the EFT of phenomenological interests, such as the quarks' spin, and the worldsheet axion, a massive string mode identified in lattice simulations of 4d fluxtubes. Finally, I will comment on the comparison with data in 4d QCD, and mention some aspects of the generalization of this analysis to the glueball spectrum (closed strings) in Yang-Mills theory.