Contribution ID: **64** Type: **not specified**

Patterns of High energy Massive String Scatterings in the Regge Regime

Saturday, 18 July 2009 12:00 (15 minutes)

We calculate high energy massive string scattering amplitudes of open bosonic string in the Regge regime (RR). We found that the number of high energy amplitudes for each fixed mass level in the RR is much more numerous than that of Gross regime (GR) calculated previously. Moreover, we discover that the leading order amplitudes in the RR can be expressed in terms of the Kummer function of the second kind. In particular, based on a summation algorithm for Stirling number identities developed recently, we discover that the ratios calculated previously among scattering amplitudes in the GR can be extracted from this Kummer function in the RR. We conjecture and give evidences that the existence of these GR ratios in the RR persists to subleading orders in the Regge expansion of all string scattering amplitudes. Finally, we demonstrate the universal power-law behavior for all massive string scattering amplitudes in the RR.

Primary author: Prof. LEE, Jen-Chi (National Chiao-Tung University)

Presenter: Prof. LEE, Jen-Chi (National Chiao-Tung University)

Session Classification: VII. Unified Theories, Strings, Non-perturbative QFT

Track Classification: Unified Theories, Strings, Non-perturbative QFT