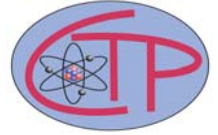




NEW YORK CITY COLLEGE OF TECHNOLOGY
Physics Department
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Scattering Amplitudes From Integrand Reduction

Presented by:

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Namm, Room 823

Abstract

I will discuss recent developments related to the integrand-reconstruction methods of one-loop scattering amplitudes. These methods have been successfully implemented in several multi-purpose codes, and used in several state-of-the-art computations. I will present a semi-analytic method for the integrand reduction of one-loop amplitudes, based on the systematic application of the Laurent expansions to the integrand-decomposition. In the asymptotic limit, the coefficients of the master integrals are the solutions of a diagonal system of equations, properly corrected by terms whose parametric form is known a priori. The Laurent expansion of the integrand is implemented through polynomial division. Applications to higher loop will be discussed as well.