S N BOSE NATIONAL CENTRE
FOR BASIC SCIENCES
Block JD, Sector III, Salt Lake, Kolkata 700 106

DEPARTMENTAL SEMINAR
Department of Astrophysics and High Energy Physics

13th July,2023   **4.00 PM**   **ONLINE/ FERMION**

SPEAKER

Mr. Souvik Bera,
Ph. D Scholar, Indian Institute of Science,
Bengaluru

TITLE OF THE TALK

Epsilon Expansion of Multivariate Hypergeometric Functions
In Terms of Multiple Polylogarithms

ABSTRACT

Multivariate hypergeometric functions (MHFs) appear as solutions to the dimensionally regularized multiscale Feynman integrals required for higher-order corrections to the scattering amplitude. The Feynman integrals are usually expanded in series in the dimensional regularization parameter. We present the Mathematica package 'MultiHypExp' that allows one to find the series expansion of certain MHFs in terms of multiple polylogarithms. We discuss its algorithm, usage, and application to Feynman integral calculus.

HOST FACULTY
Prof. Amitabha Lahiri, Senior Professor
Dept. of ASTROPHYSICS AND HIGH ENERGY PHYSICS
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