



**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**

**20<sup>th</sup> February, 2024**

**4. 00 PM**

**FERMION / ONLINE**

### **SPEAKER**

**Dr. Subhajit Mazumdar,  
Postdoctoral Scholar, Okinawa Institute of Science and  
Technology Graduate University, Japan**

### **TITLE OF THE TALK**

**Kite and Triangle diagrams through Symmetries of Feynman Integrals**

### **ABSTRACT**

The Symmetries of Feynman Integrals (SFI) is a method for evaluating Feynman Integrals which exposes a novel continuous group associated with the diagram which depends only on its topology and acts on its parameters. Using this method we study the kite diagram (a two-loop diagram with two external legs) and the most general triangle diagram (one-loop diagram with three external legs) with arbitrary masses and space-time dimensions. Generically, this method reduces a Feynman integral into a line integral over simpler diagrams. We identify the locus/loci in parameter space where the integrals further reduce to a mere linear combination of simpler diagrams. We generalize and revisit some known results.

### **HOST FACULTY**

**Prof. Sunandan Gangopadhyay  
& Dr. Parijat Dey**

**Dept. of ASTROPHYSICS AND HIGH ENERGY PHYSICS**

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