

VII Leopoldo García-Colín Mexican Meeting on Mathematical and Experimental Physics



Contribution ID: 12

Type: **not specified**

HUGO MORALES-TÉCOTL: Polymer Quantum Field Theory in the High Energy Regime

Wednesday, 19 February 2020 17:00 (30 minutes)

The proposal of loop (polymer) quantization of general relativity can be adapted to systems with finite number of degrees of freedom like each one of the infinite modes (harmonic oscillators) forming a scalar field to give rise to the Hosain-Husain-Seahra (HHS) model. This model crucially relies on the properties of the Mathieu solutions of the quantum pendulum that corresponds to the polymer oscillators and its generalization to interacting field theories is difficult. In this work we provide a different perspective of the HHS model based on Feynman approach within the polymer scheme that relies on a perturbative expansion valid for high energies and which is amenable to include interactions.

Session Classification: SHORT TALKS

Track Classification: SYMPOSIUM ON BLACK HOLES AND GRAVITATIONAL WAVES