

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A&B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032, India

Seminar Notice

Org. by

Theoretical Physics Department

Title:	Soft tracks: Tool and Application
Speaker:	Sabyasachi Chakraborty, TIFR, Mumbai
Date:	June 15, 2017 (Thursday)
Time:	03:00 p.m.
Venue:	Theoretical Physics Seminar Room (R/No.-C406), 3rd Floor, Centenary Building, IACS
Abstract:	<p>Compressed spectra remains a natural hideout for many beyond standard model scenarios. The lack of visible energy in the final state results in a much weaker bound on the new physics (NP) particles. The final state topology is simple, consisting of a single hard jet and missing energy. However, the information at hand is minimalistic in nature. Therefore, it is hard to increase the signal purity and sensitivity with the traditional observables. In this light, the inclusion of soft tracks, which carries the information of particle multiplicities in an event can increase the signal sensitivity by many orders. We will present our results in a toy model to start with and then apply this idea in two beyond standard model scenarios, such as, compressed MSSM and MUED. Our results show that compressed MUED can already be ruled out with the present data.</p> <p>Based on: 1. Chasing New Physics in stacks of soft tracks, PRD 94 (2016) no.11, 111703 2. Constraining compressed versions of MUED and MSSM using soft tracks at the LHC, arXiv: 1704.07048</p>

All are cordially invited to attend the seminar