

第 34 回 素粒子・宇宙セミナー

日時: 2026 年 3 月 9 日 (月) 13:00 ~ 14:30

場所: 教育学部 E215B (物理セミナー室)

講演者

Subhadeep Sakar

(Indian Institute of Technology Patna、博士課程学生)

題目

Hunting sparticles at the LHC using Machine Learning

概要

With the LHC entering its high-luminosity phase and prospects of further energy upgrades, it becomes crucial to systematically assess the discovery and exclusion potential for electroweakinos at the High Luminosity-LHC and High Energy-LHC. In this talk, we explore the search sensitivities of electroweakinos at future colliders using modern machine learning (ML) tools, which can efficiently capture complex correlations among multiple kinematic observables and significantly enhance signal-background discrimination compared to traditional cut-based methods. Furthermore, we investigate the possibility of reconstructing heavy sparticle masses directly from detector-level data in the presence of an excess over the Standard Model expectation, demonstrating how advanced ML techniques can improve both discovery prospects and parameter determination in supersymmetric scenarios.

WELCOME!



問い合わせ先: 馬渡健太郎 (岩手大学 教育学部 理科教育科) mawatari@iwate-u.ac.jp
山本恵 (岩手大学 理工学部 数理・物理コース) keiy@iwate-u.ac.jp