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E I N L A D U N G

im Rahmen des Teilchenphysikseminars

zum Vortrag

von

Maeve Madigan
(Univ. Cambridge)

über

„Hide and seek: how PDFs can conceal new physics"

Abstract:
The Standard Model Effective Field Theory (SMEFT) provides a powerful theoretical framework for interpreting subtle deviations from the Standard Model and searching for heavy new physics at the LHC.
Accurate interpretations of LHC data, however, rely on the precise knowledge of the proton structure in terms of parton distribution functions (PDFs).
In this seminar, I will discuss the interplay between PDFs and the search for new physics.
I will showcase a scenario for the High-Luminosity LHC in which the PDFs may completely absorb such signs of new physics, thus biasing theoretical predictions and interpretations.
To address this challenge, I will present a simultaneous determination of PDFs and the SMEFT using the SIMUnet methodology.
This approach integrates both PDF and SMEFT determinations into a single, coherent framework, making possible an assessment of the regions of parameter space in which the interplay is most phenomenologically relevant, both at the LHC and HL-LHC.

Zeit: Freitag, **1.12.2023, 16:15 h**
Ort: Josef-Stefan Hörsaal, Boltzmanngasse 5, 3. Stock

Join Zoom Meeting - Meeting ID: 933 4269 3866   Passcode: 185096
https://univienna.zoom.us/j/93342693866?pwd=aUpTR0VJNUhJY2Q0ajdaKzI1YWVBQT09

gez.: A. Hoang, M. Procura, T. Corbett