Beitrag ID: **19** Typ: **Talk**

AI augmented event generation for collider physics

Donnerstag, 13. November 2025 16:30 (30 Minuten)

The evaluation of fixed-order perturbative QFT transition matrix elements forms the central component of simulations of scattering events at collider experiments as provided by Monte Carlo event generators. In view of the physics requirements of the LHC experiments high-multiplicity processes at high perturbative accuracy need to be addressed. This posses a severe challenge to the current state-of-the-art algorithms for phase-space sampling and event generation. In this talk I will discuss two methods to augment event generation with AI methods in order to improve the generator performance: Neural Importance Sampling and Neural Network Surrogate Unweighting.

Vortragende(r): SCHUMANN, Steffen (ITP Uni Goettingen)

Sitzung Einordnung: Plenary