Machine Learning Approaches for the Energy Reconstructions in the CMS HCAL

Speaker: Dr. Hui Wang 王徽 (Rutgers U.)

Time: 09:00am Wed 30th Nov 2022

Indico: indico.ihep.ac.cn/event/18173/

Zoom ID: 8154 5700 519

Password: 123456

Abstract / 摘要:

Machine Learning (ML) techniques have been widely used in particle physics in downstream studies, such as object tagging and data quality monitoring. In this talk, I will present ML approaches in the upstream, for the energy reconstructions in the CMS HCAL. I'll briefly introduce the workflow of the HCAL energy reconstruction and some basic techniques of ML. Then I'll focus on the ML architectures with a highlight on the physics behind the design. Last, I'll present the ML performance, which shows promising improvements from upstream hit-level to downstream particle-level energy resolutions.

About the speaker / 报告人介绍:

Hui Wang is a postdoctoral researcher at the Rutgers University. He obtained his B.S. in Physics from Nanjing University and his Ph.D. in Experimental Particle Physics from University of Illinois at Chicago. He is currently an L2 convener of the CMS HCAL DPG. His research focuses on ML approaches for the HCAL energy reconstructions, and searches for dijet resonance and supersymmetry.