

Using Machine Learning for a Fast Evaluation of Supersymmetric NLO Cross Sections

Thursday, January 4, 2018 6:30 PM (15 minutes)

In this Masters thesis we have developed a faster way to calculate supersymmetric cross sections at next-to-leading order (NLO) by using machine learning techniques. This method teaches the computer software to imitate the cross section function, facilitating the evaluation of a large number of parameter points in a short period of time. Training is carried out based on data generated with SoftSUSY and Prospino 2.1. We have used the phenomenological MSSM-24 as an example model with the production of gluino pairs as an example process.

Summary

Primary author: SPARRE, Jon Vegard (University of Oslo)

Presenter: SPARRE, Jon Vegard (University of Oslo)

Session Classification: Thursday PM

Track Classification: Particle Physics and Artificial Intelligence