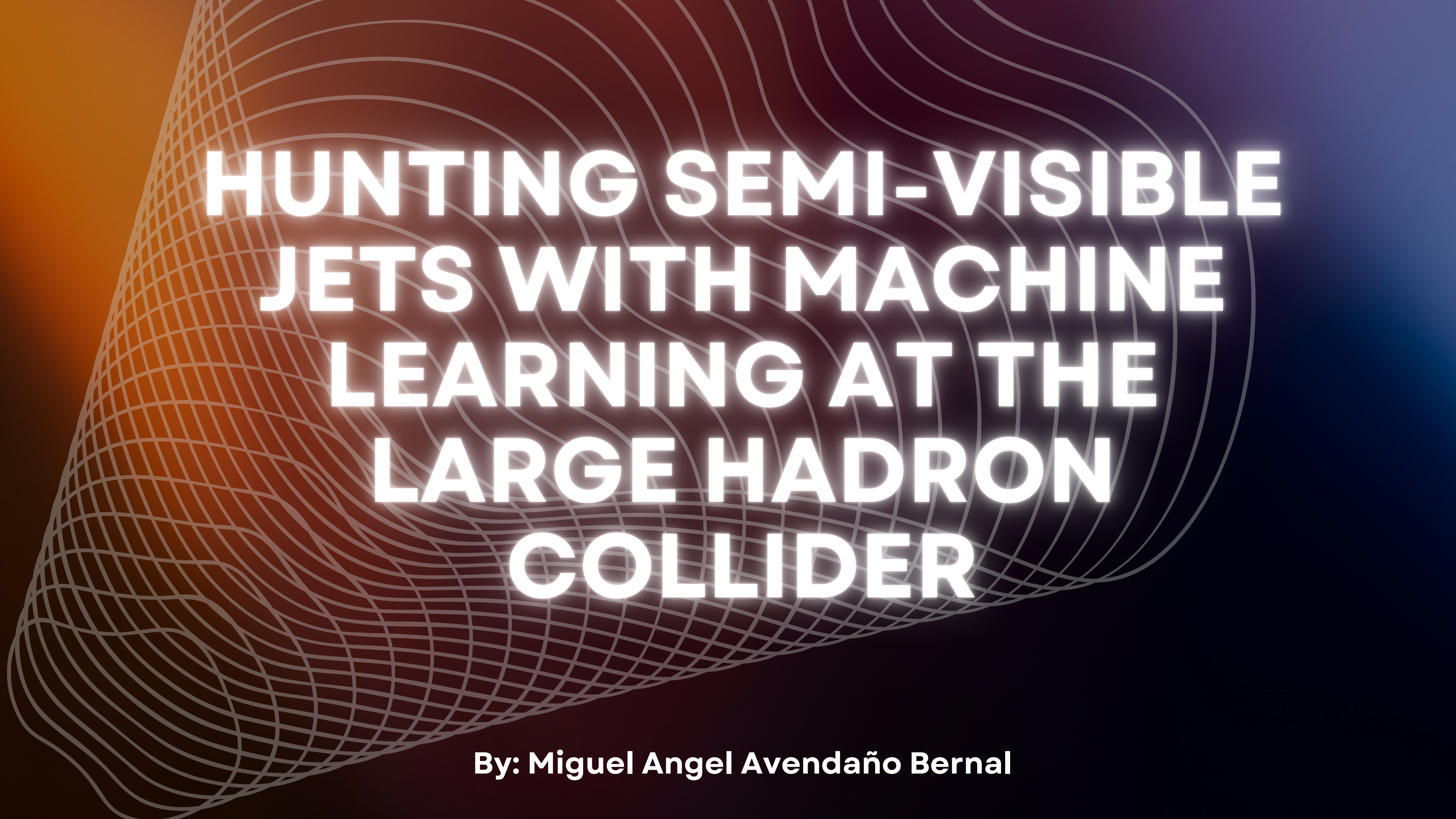
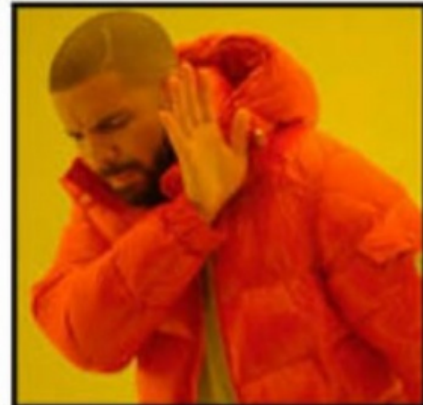




HUNTING SEMI-VISIBLE JETS WITH MACHINE LEARNING AT THE LARGE HADRON COLLIDER

By: Miguel Angel Avendaño Bernal

What are Semi-Visible Jets?

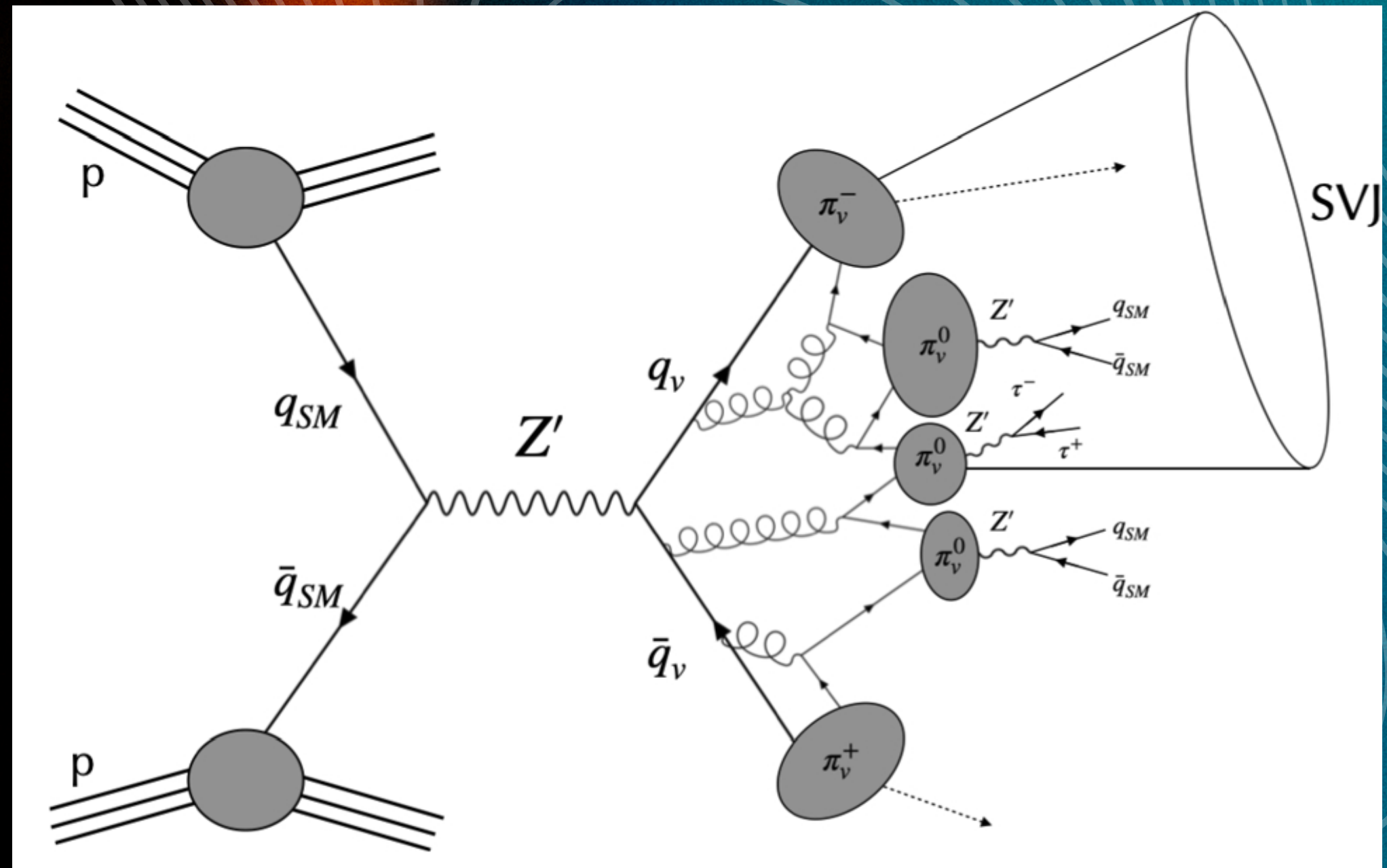


**JET CLOSE
TO MET?**



**SEMI-VISIBLE
JETS!**

imgflip.com

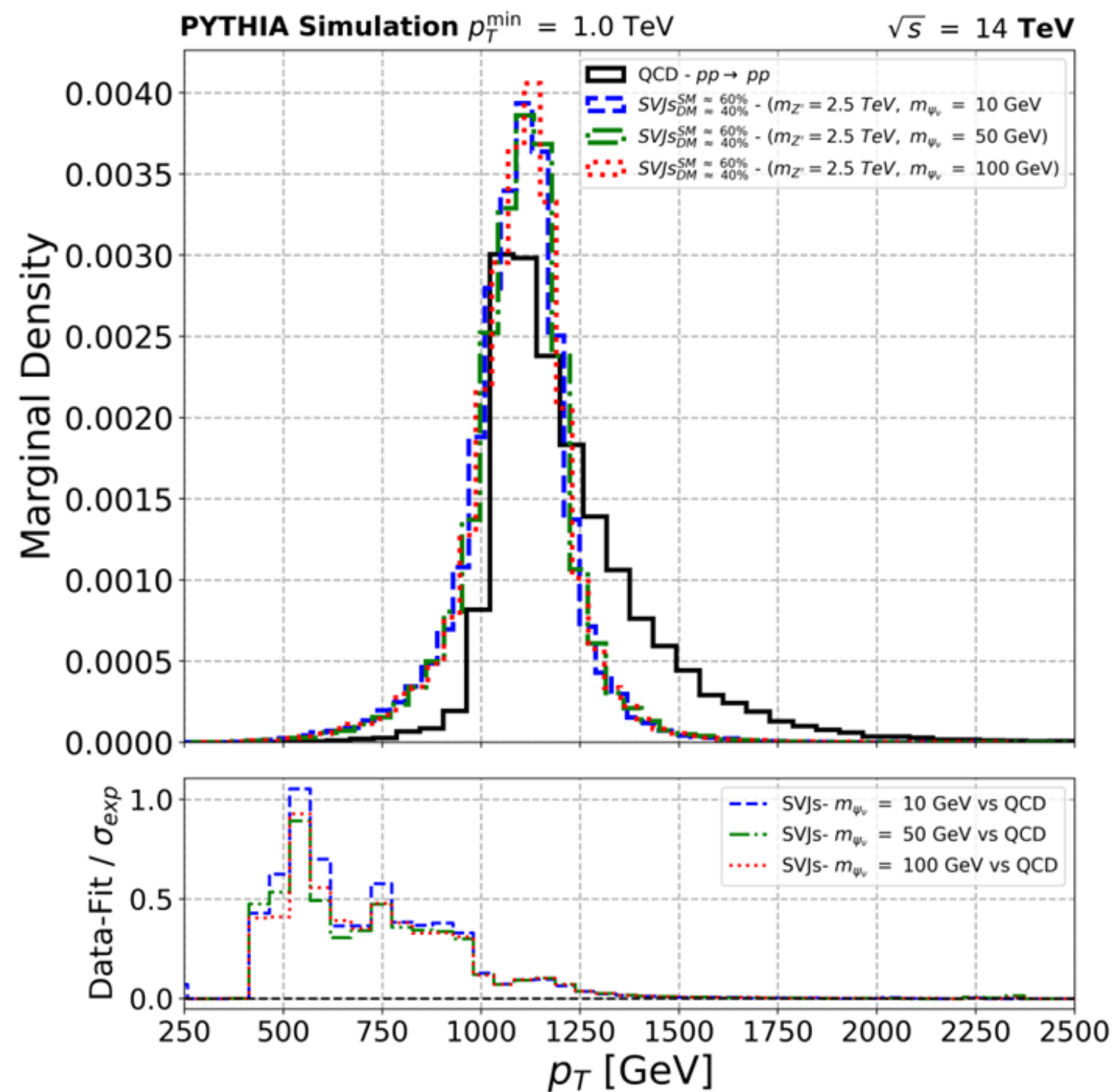


Recovered from: (ATLAS Collaboration, 2025)

Employment of observables (QCD VS SVJs)

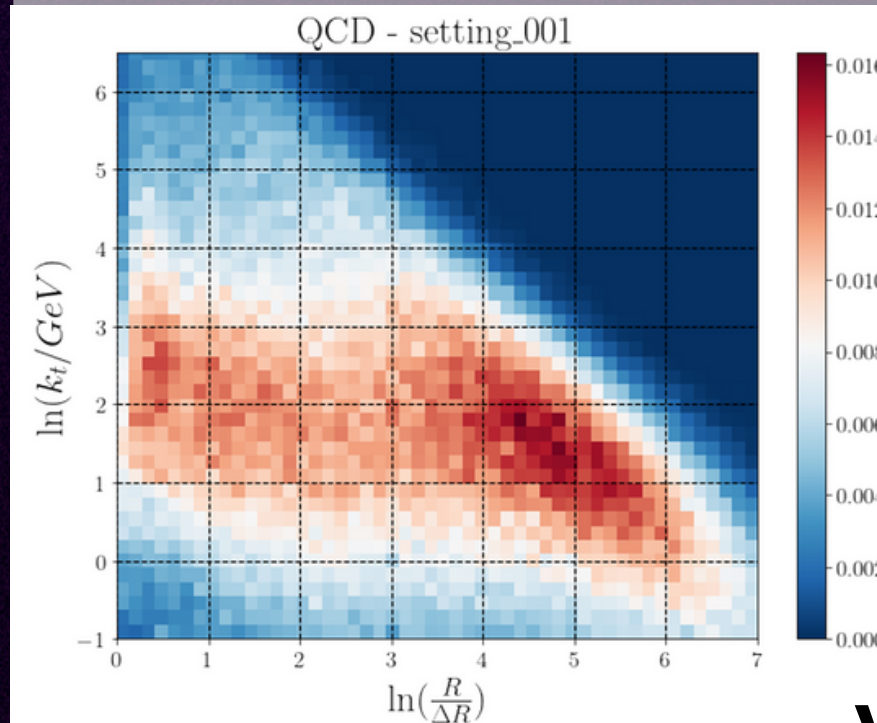
1

JET GLOBAL KINEMATICS

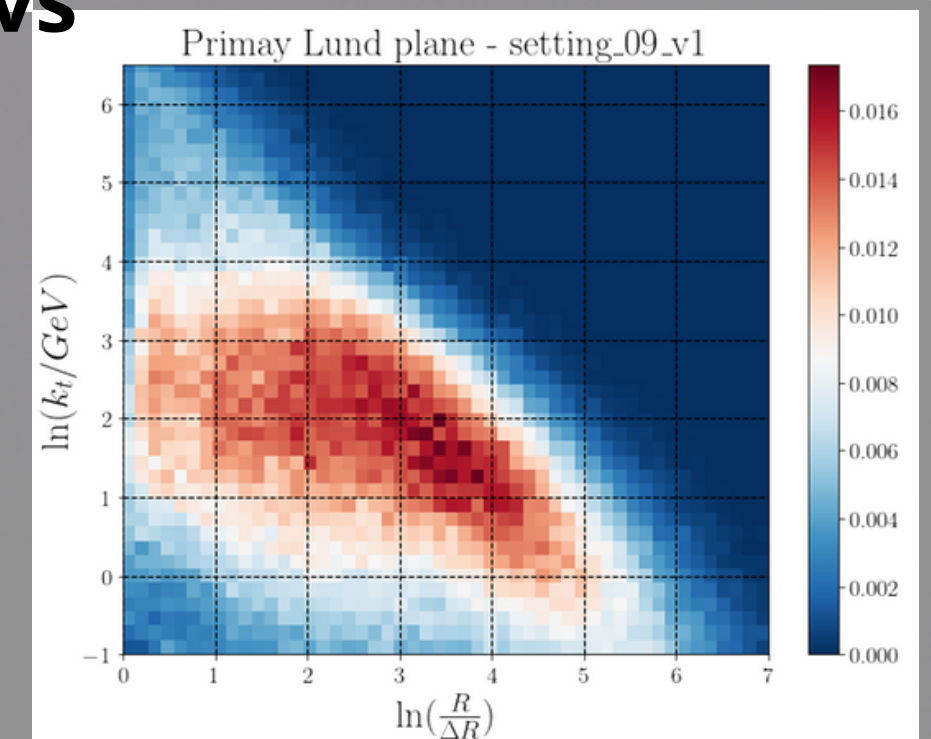


2

JET SUB-STRUCTURE KINEMATICS



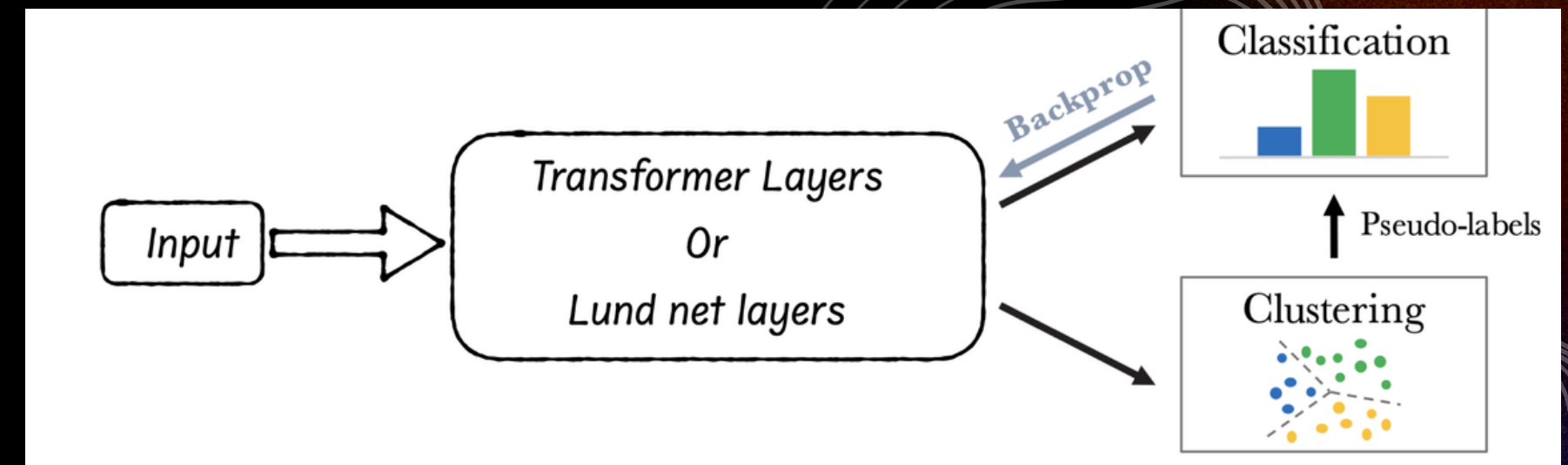
VS



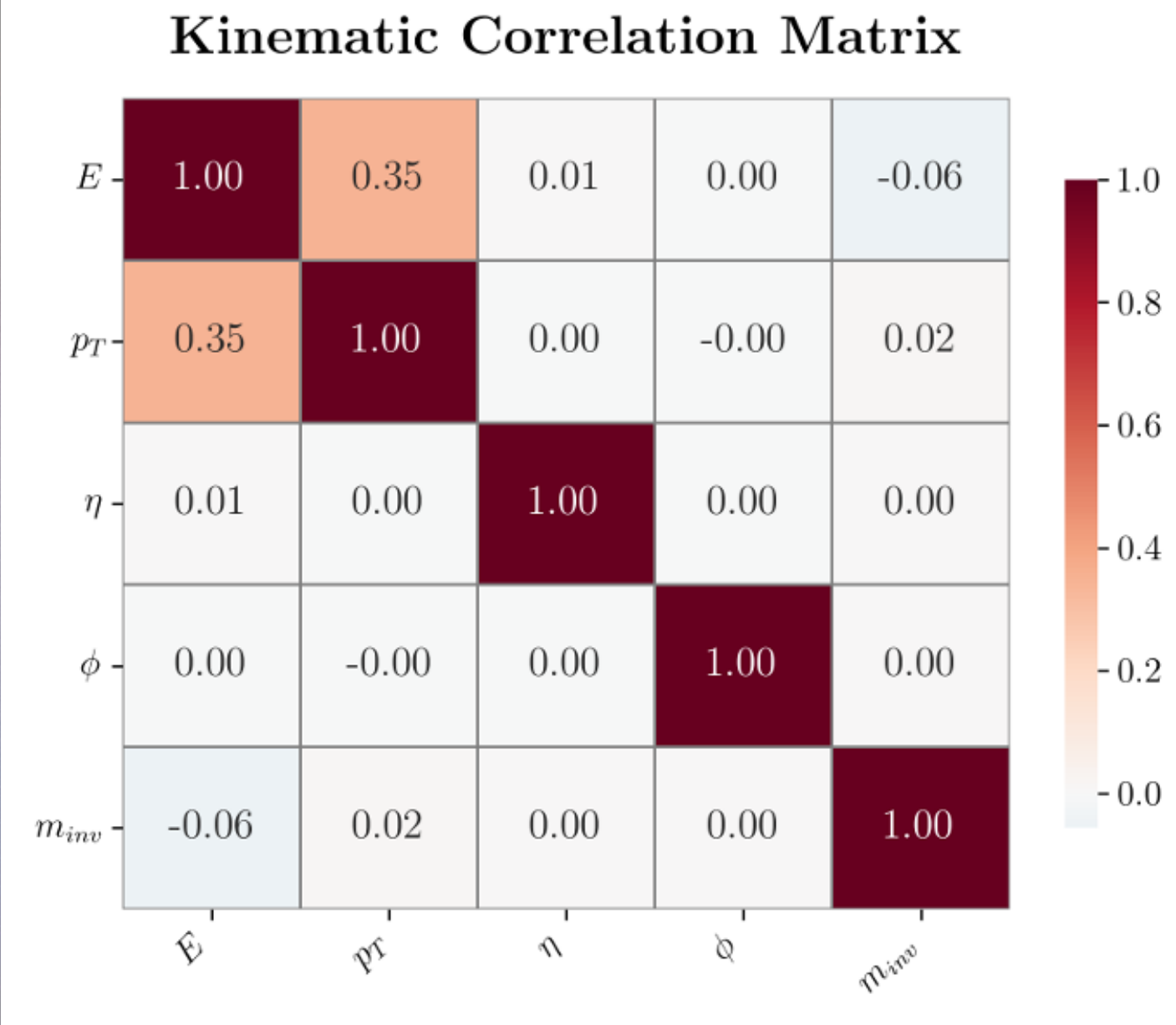
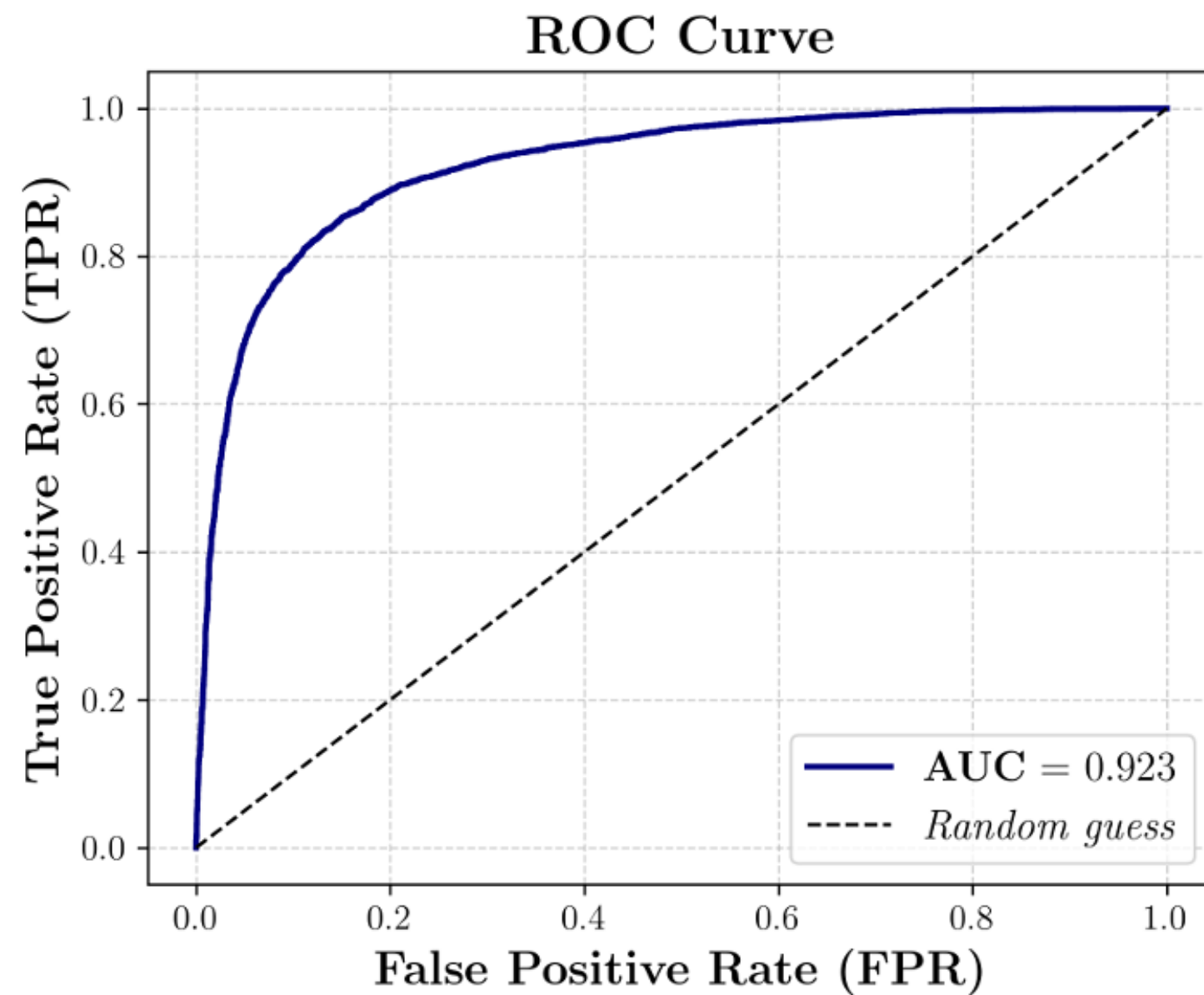
QCD bck:
 $pp \rightarrow pp$
 $p_T = 1.0$ TeV

SVJ signal:
 $Z': m_0 = 2.5$ TeV
 $p_T = 1.0$ TeV

Our goal: ML Analysis:



Main idea recovered from: (Park, S.E., Harris, P. and Ostdiek, B., 2023)



Thanks!

Any questions?

UwU

References:

1. **ATLAS Collaboration, 2025. Search for new physics in final states with semi-visible jets or anomalous signatures using the ATLAS detector. arXiv preprint arXiv:2505.01634.**
2. **Park, S.E., Harris, P. and Ostdiek, B., 2023. Neural embedding: learning the embedding of the manifold of physics data. Journal of High Energy Physics, 2023(7), pp.1-38.**