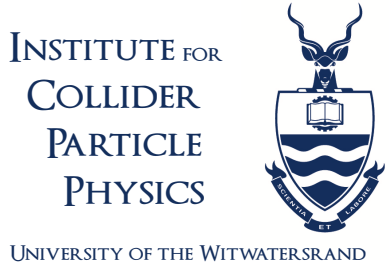
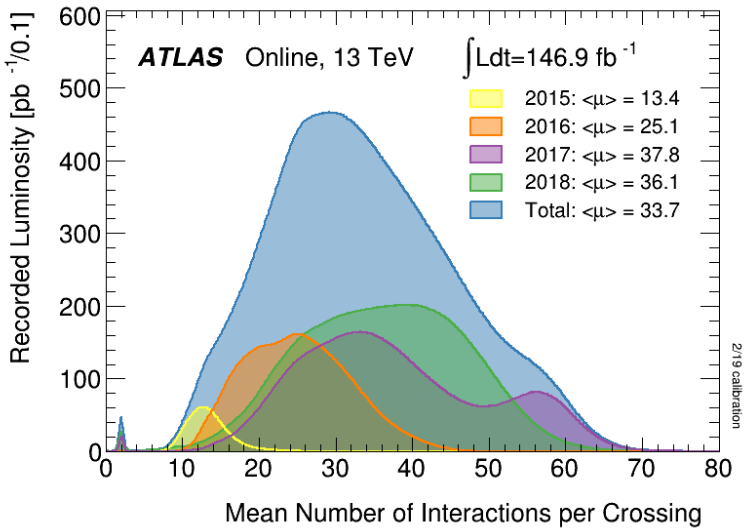
Weekly update

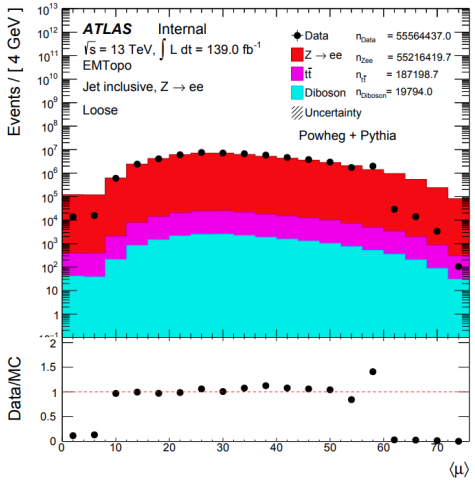
Abdualazem Fadol

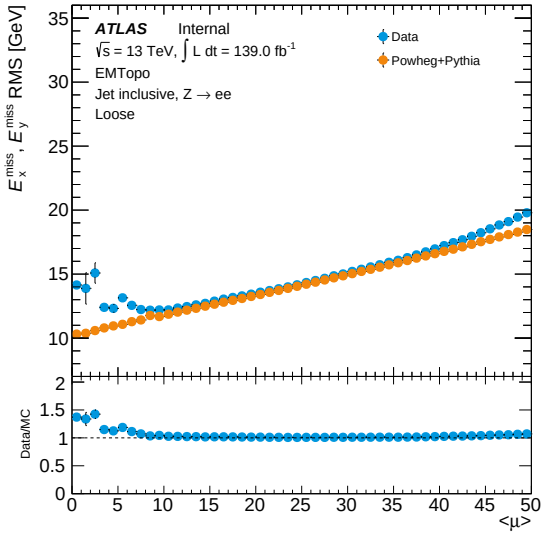
November 23, 2020



Qualification task







- ☐ I've been asked to do few things before the signing off the task.
- ☐ Fixing the problem with resolution plots at low pile-up.
- ☐ Preparing webpage with all the plots that I produce so far.
- ☐ Also, explaining/checking why there's a very large mismodelling on pile-up.
- ☐ Give a presentation to a wider audience in the main Jet/Etmiss meeting.

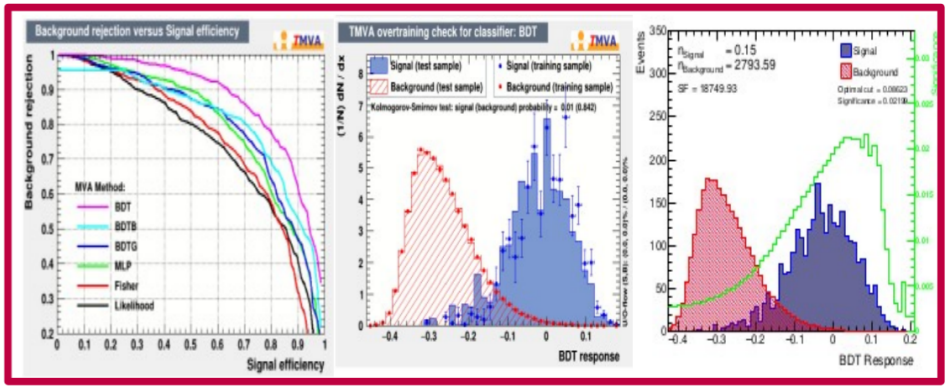
$4\ell + E_{\mathrm{T}}^{\mathrm{miss}}$ analysis

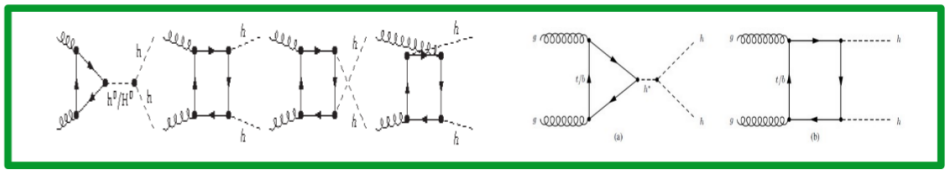
- Trying to calculate the cross sections of the AZH signal.
- Using recommendation for 2HDM from the HBSM group.
- In the meantime, I'm trying to get he AZH signal fit for all samples.

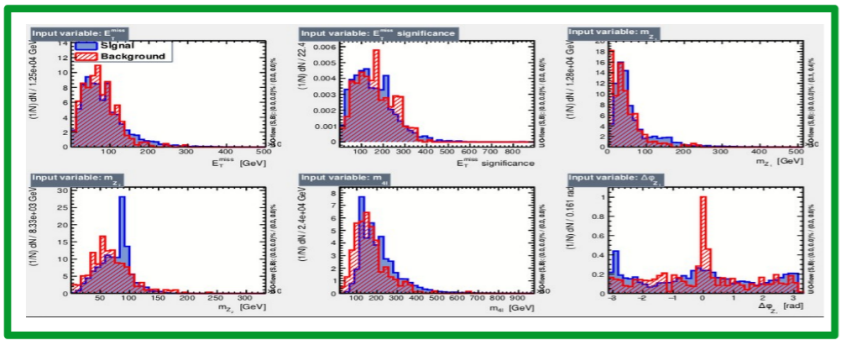
Di-Higgs to 4ℓ analysis

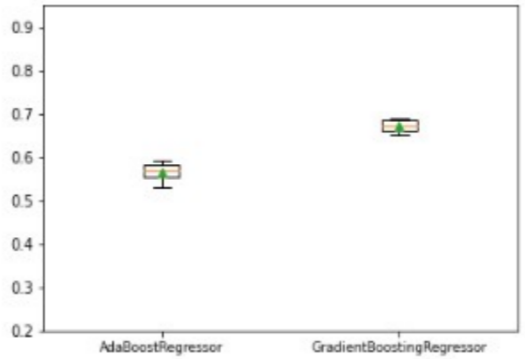
The application of Machine Learning in particle physics

- The idea is to implement what I've learn here on particle physics.
- I've already used TMVA techniques with different algorithm.
- The objective is to separate a tiny signal from a huge amount of backgrounds.









- From ML, we can see that BDTG is performing better thank BDT
- But TMVA is quite the opposite.

Thank you!