

Update

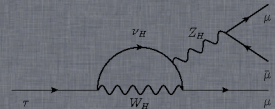
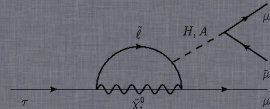
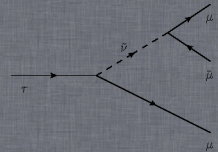
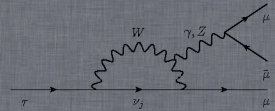
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November 3, 2013

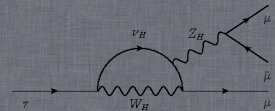
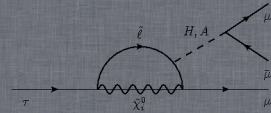
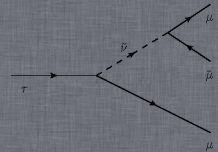
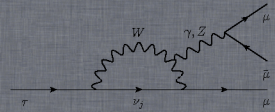


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PID + GeoMVA

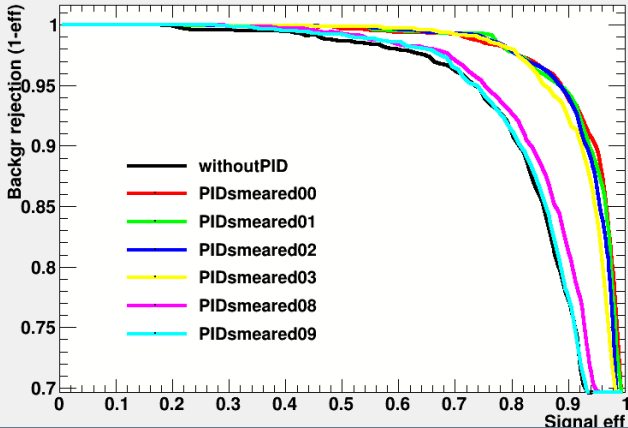
Calibration of PGMVA



Reminder

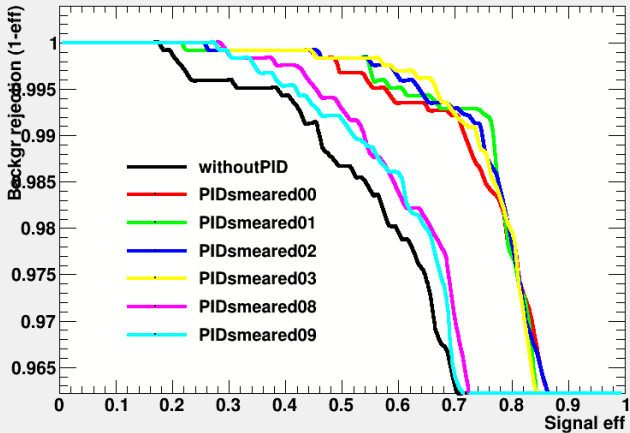
Last week I shown that we might gain quite a lot by putting PID inside our GEOMVA. Let's see if we are sensitive to poor description of PID in MC(credits to **Helge Voss**):

MVA_BDT2



Closer look

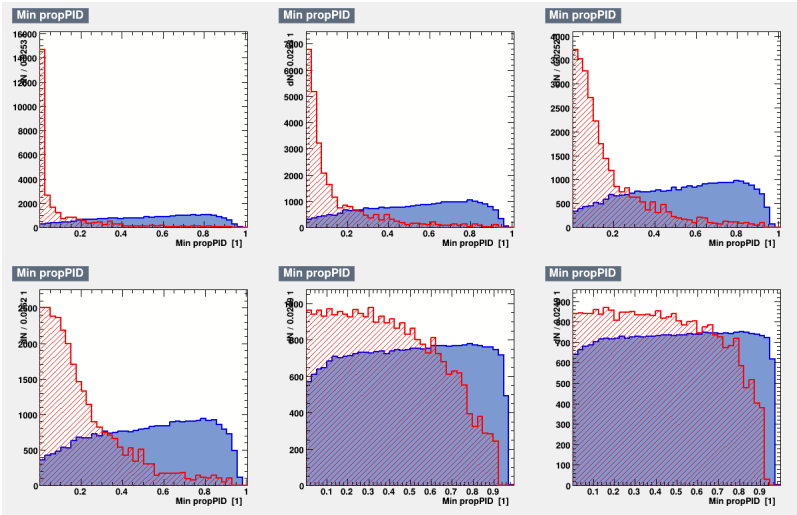
MVA_BDT2



Conclusion

- 1 Clearly our optimistic MC has no impact on our MVA performance.
- 2 Tools ready to train it with different information loose="smearing"

Conclusion

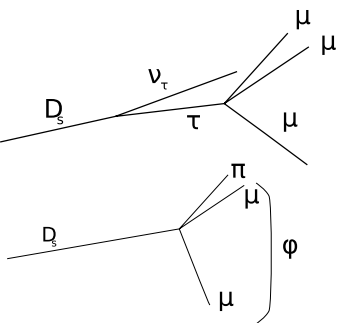


Calibration of PGMVA=PID + GeoMVA

- The biggest worry is if we can calibrate this channel.
- The following idea allows to calibrate our channel on $D_s \rightarrow \phi\pi$.
- It looks that calibration can be even simpler than the one we make.
- Ok enough of building attention, let's caught to the chase

Calibration of PGMVA=PID + GeoMVA

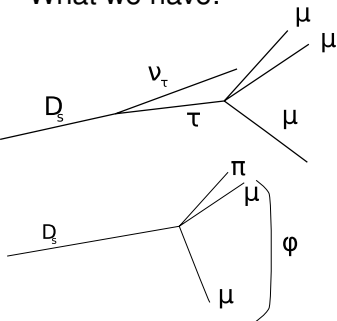
What we have:



- For free we have 2 mu PID.
- For signal we need 3.
- Let's take our $D_s \rightarrow \phi\pi$ and bin our muons in 3D bins of n_{trk} , $P_{t,\mu}$, and η_{mu} .
- For each of the bins we have a PID distribution for muon
- Then for the π in a given bin we choose a PID according to μ PID in this bin.
- $B \rightarrow K^* \mu\mu$ uses a similar approach.

Calibration of PGMVA=PID + GeoMVA

What we have:



- Calibration is in principle easier.
- Use only one channel, instead of two.