

MVA selection for $\tau \rightarrow 3\mu$

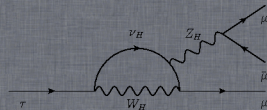
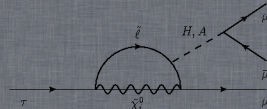
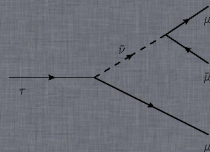
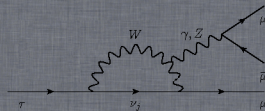
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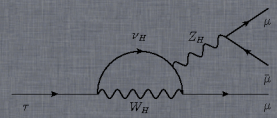
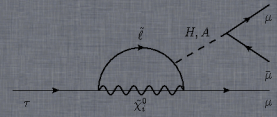
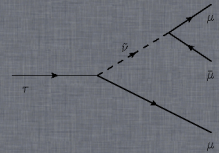
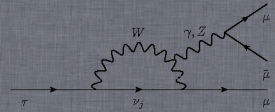
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TMVA

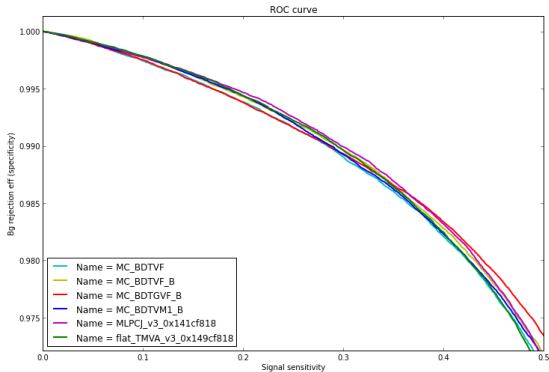
Blending

Conclusions



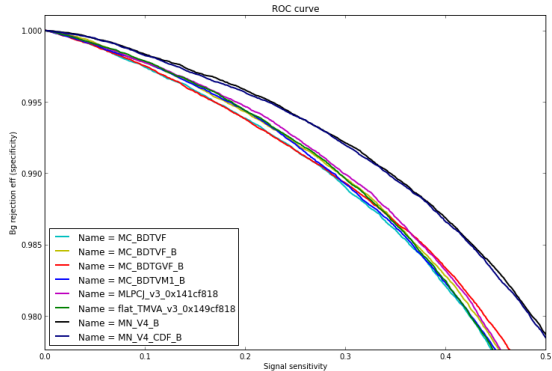
TMVA impact of peaking bck veto

- Let's see where do we stand.
- TMVA trained by me as by product have similar performance as Pauls.
- No surprises here.



TMVA impact of peaking bck veto

- Lets see Matrix Net in this picture.
- WOW
- Why? Have a theory.

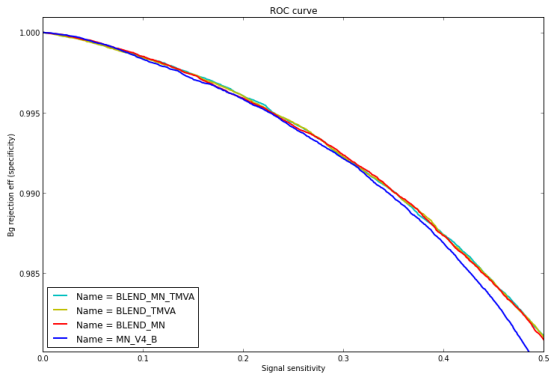


Blending details

- Signal sample is divided in 3 parts and bck sample in 2.
- For 5 τ channels we train around 13 TMVA MVA + MN.
- Used till now 1/3 of signal and 1/2 of bck.
- Mix 2/3 and 3/3 as we did till now.
- Train now 2/3 signal against 1/2 bck.
- Used up till now 66% of signal MC and 100% bck MC.
- We test on 3/3 of signal and data middle side-bands.

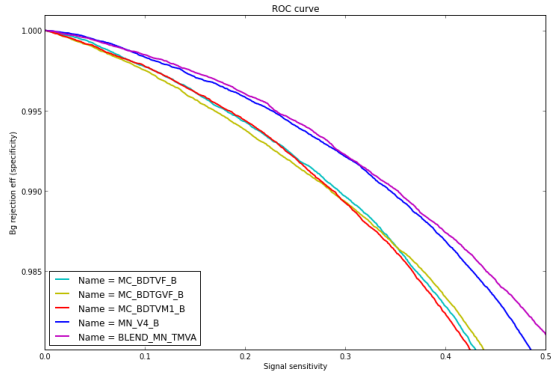
Blending results

- Blending performs a bit better than MatrixNet alone.
- Both TMVa blends and MN have an impact on the improvement.



Blending results

- Overall picture



Conclusions

- Looks like MN from the beginning recognized the blends.
- Clearly Blending is the best solution.
- Lets stick to it and move on?
- The plan is also to flatten the Mn output<- make live easier for binning optimisation.

BACKUP

