

BDT update



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$B^0 \rightarrow K^* \mu^- \mu^+$ meeting, CERN
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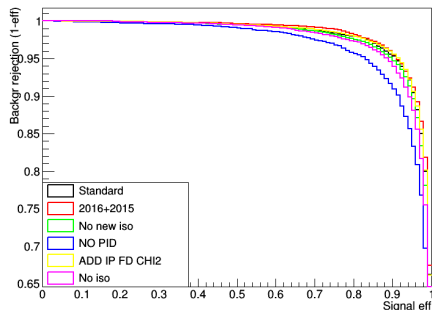
Strategy

Keep things as close to Run1 as possible

Reminder

⇒ We decided to use the old isolation and 2016 data for training only.

⇒ See previous slides:
<https://indico.cern.ch/event/675>



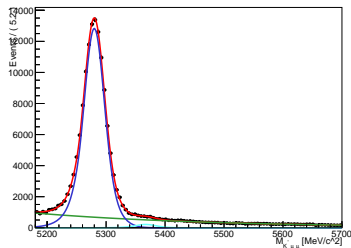
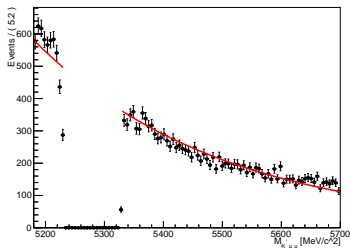
BDT optimization

⇒ Let's follow the last year procedure:

$$s_{\text{non-rez}} = s_{J/\psi} * \epsilon_{\text{non-rez}} / \epsilon_{J/\psi}$$

⇒ For now let's assume the $\frac{\epsilon_{\text{non-rez}}}{\epsilon_{J/\psi}} = 1$.

⇒ We scan the BDT cut fitting both the side-band and the resonant region:



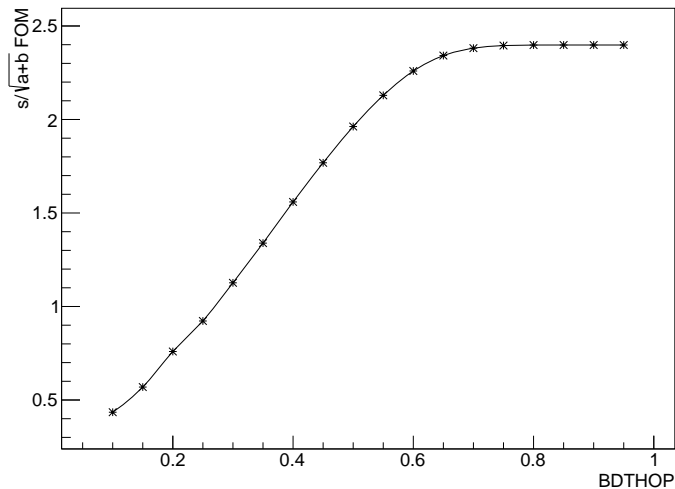
⇒ From this we know $s_{J/\psi}$ and b and calculate:

$$\text{FOM} = \frac{s}{\sqrt{s+b}}$$

(1)

BDT optimization

⇒ Something is wrong:



Conclusions

- Now I need to debug my code and update the efficiency calculations to see if this makes a difference.
- For now please use the old cut: $BDT > 0.2$ as it has similar $\frac{s}{b}$ ratio on the new tuples.
- Tuples are here:
`/eos/1hcb/wg/RD/Bd2Kstmumu/BDT`

