

Run 2 $R(D^{(*)})$ Progress 8-7-20

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- Yipeng made some progress adding μ BDT branches to the ntuple

- Contact Lucia to try to use their solution

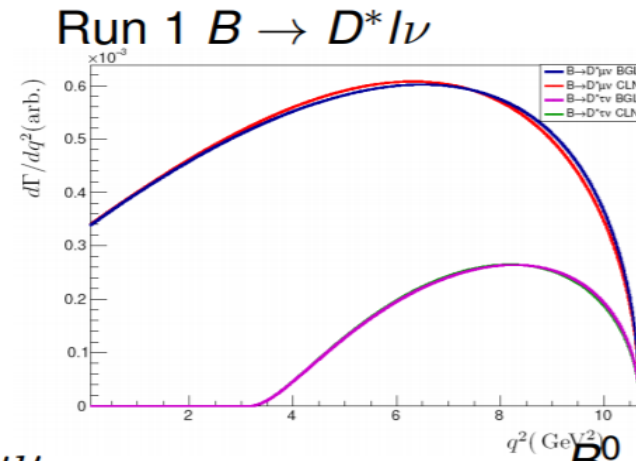
- Yipeng successfully reconstructed three wrong-sign trees

- Wrong-sign trees
- | | |
|--|--|
| $B^+ \rightarrow D^0 (K^- \pi^+) \mu^+$ | (wrong sign μ) |
| $\bar{B}^0 \rightarrow D^{*+} ((D^0 \rightarrow K^- \pi^+) \pi^+) \mu^+$ | (wrong sign μ) |
| $\bar{B}^0 \rightarrow D^{*+} ((D^0 \rightarrow K^- \pi^+) \pi^-) \mu^-$ | (wrong sign π , combinatorial D^{*+}) |

- Svende sent Manchester updated dec files for signal/normalization with q^2 distributions (see next slide)

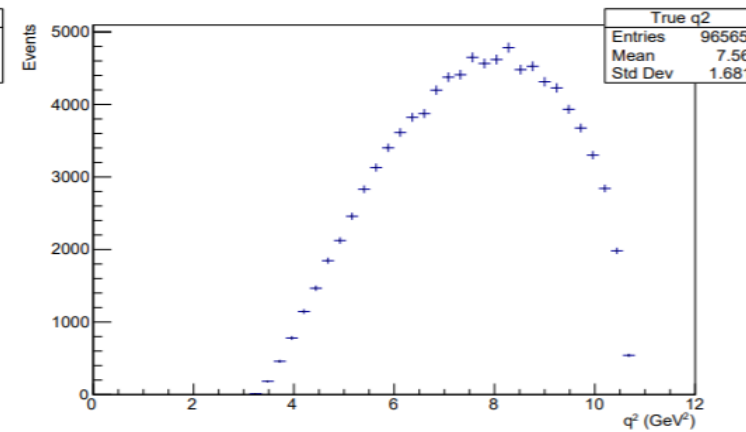
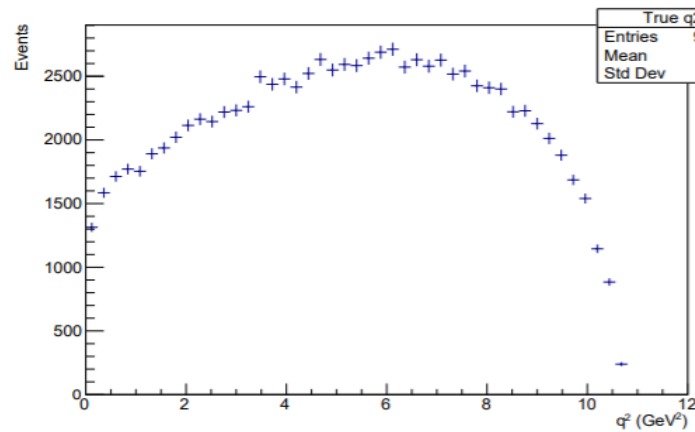
- Working on background now (hopes to finish D^{**} , DD next week)
 - Will do MC request next SL meeting, Aug 26

Signal/normalization q^2 distributions



new FF: $B^0 \rightarrow D^{*+} \mu \nu$

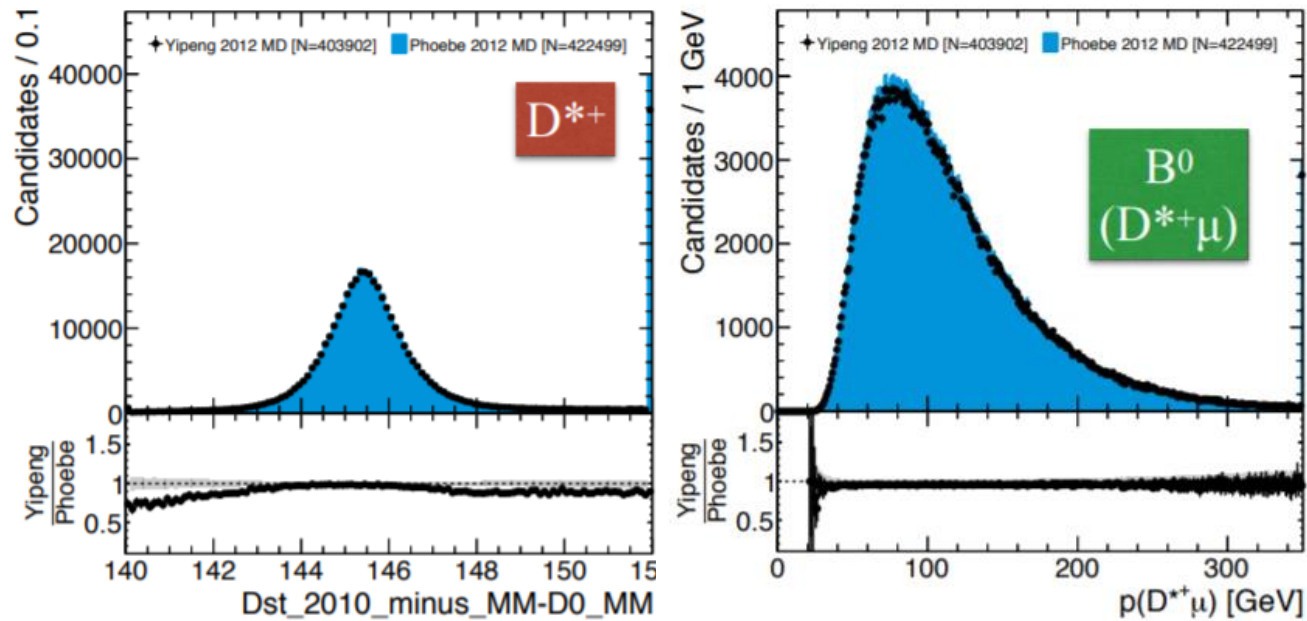
q^2 (GeV^2) $B^0 \rightarrow D^{*+} \tau \nu$



Yipeng began looking at fit differences between his and Phoebe's scripts (examples below), and between DaVinci v36 and v42

- Got v36 to run with "lb-run" tool

Some D^{*+} variables agree



Note: "MM" is Δm before fit,
"M" is Δm after fit

Some don't agree (our fit adding constraint)

