

# MORE SYSTEMATICS

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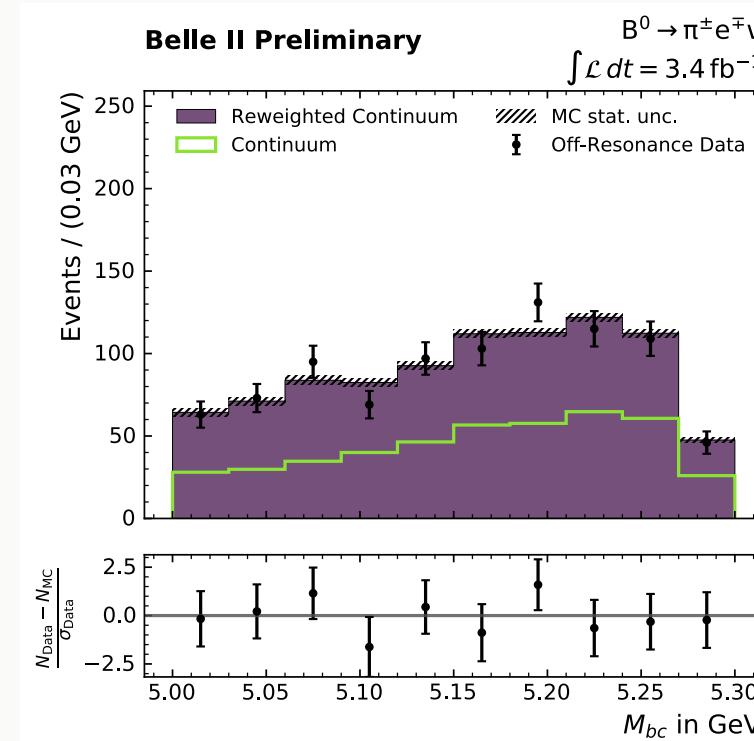
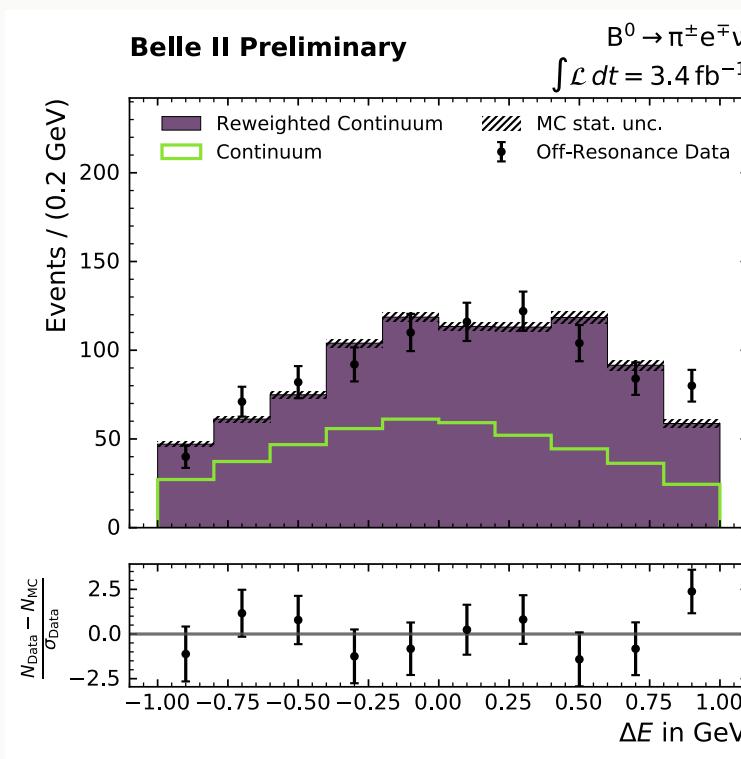
BBAM

10.06.20



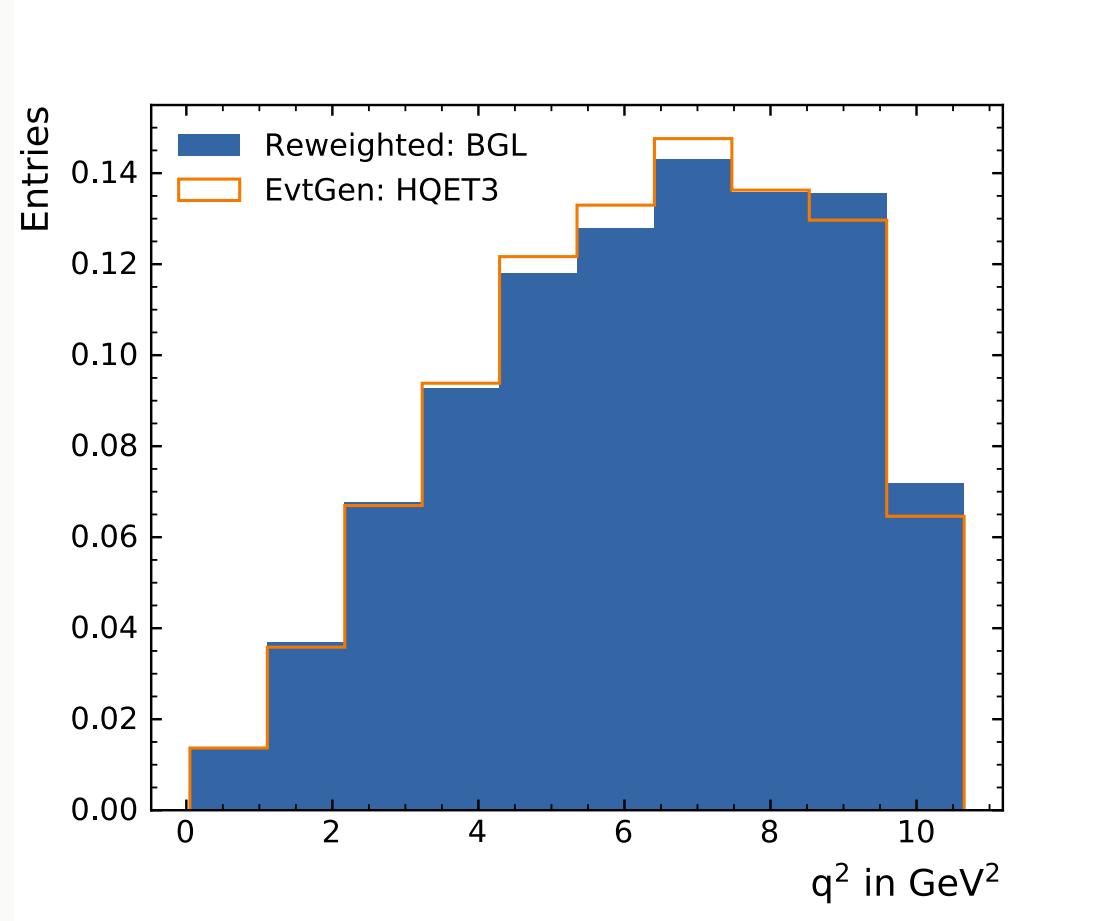
# REWEIGHTING STATUS

- With new bucket 12:  $\sim 3.4 \text{ fb}^{-1}$  off-resonance
- Performed 3D reweighting in  $q^2$ , deltaE and  $M_{bc}$



# FF REWEIGHTING STATUS

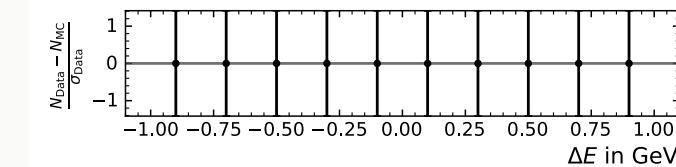
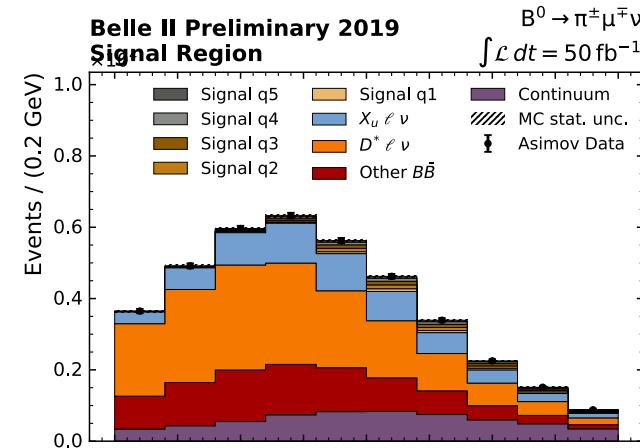
- With Chaoyi's and Lu's help I reweighted my D\*background from HQET3 to BGL
- Did 1D reweighting in  $q^2$
- Need some more statistics



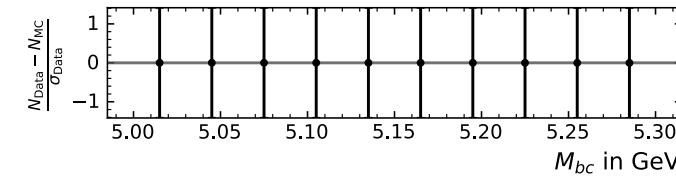
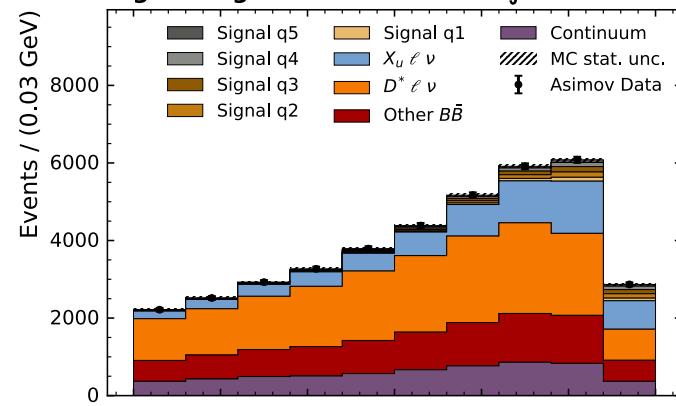
# ASIMOV TESTING

|    | In           | Asimov       |
|----|--------------|--------------|
| q1 | $349 \pm 18$ | $349 \pm 51$ |
| q2 | $508 \pm 23$ | $508 \pm 59$ |
| q3 | $510 \pm 23$ | $510 \pm 71$ |
| q4 | $436 \pm 21$ | $436 \pm 84$ |
| q5 | $290 \pm 17$ | $290 \pm 83$ |

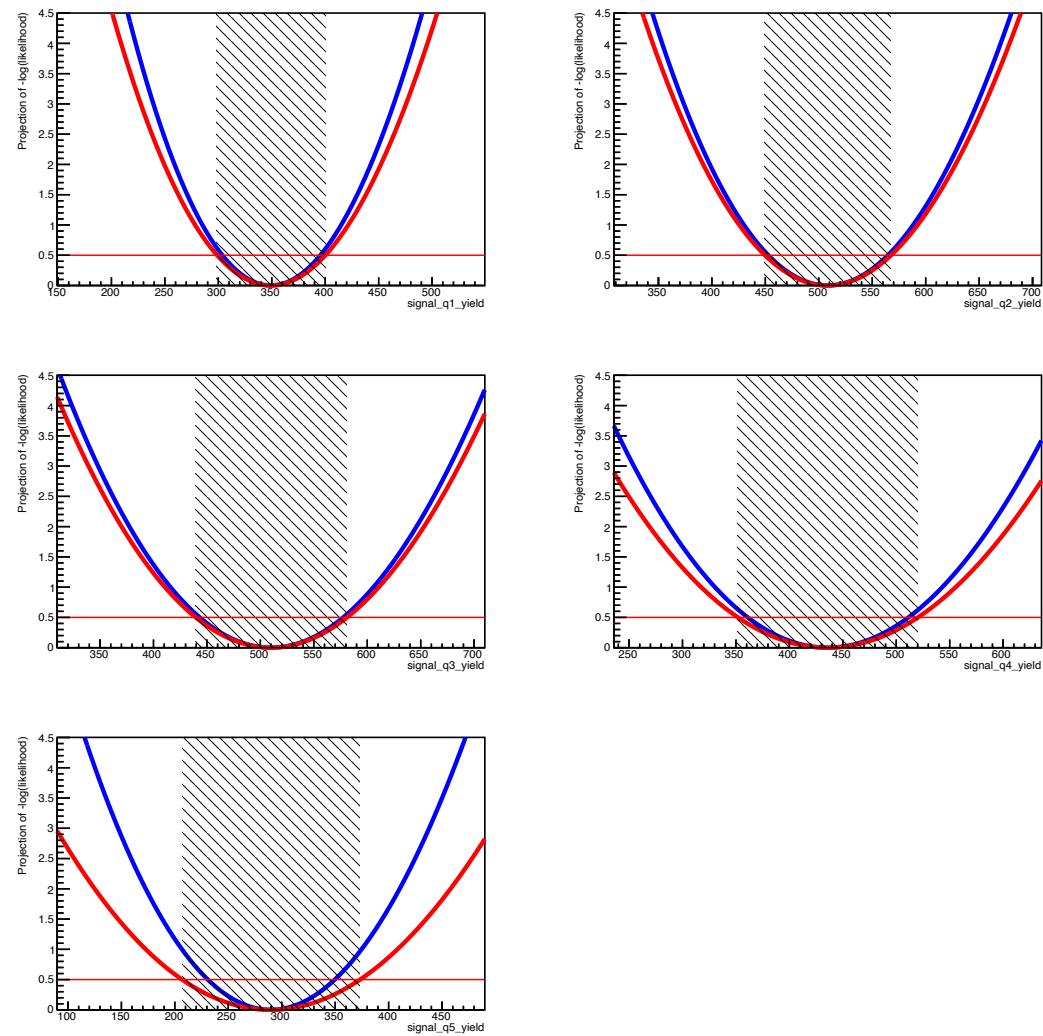
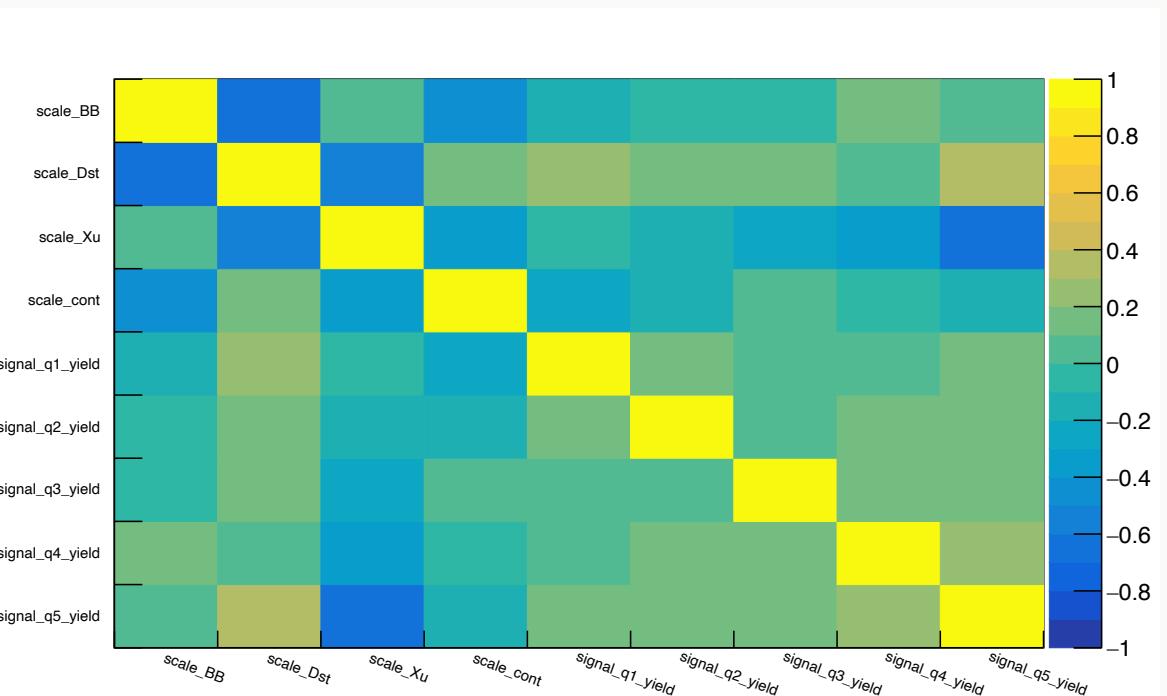
| BB              | Dst             | Xu              | cont            |
|-----------------|-----------------|-----------------|-----------------|
| $1.00 \pm 0.03$ | $1.00 \pm 0.02$ | $1.00 \pm 0.05$ | $1.00 \pm 0.03$ |



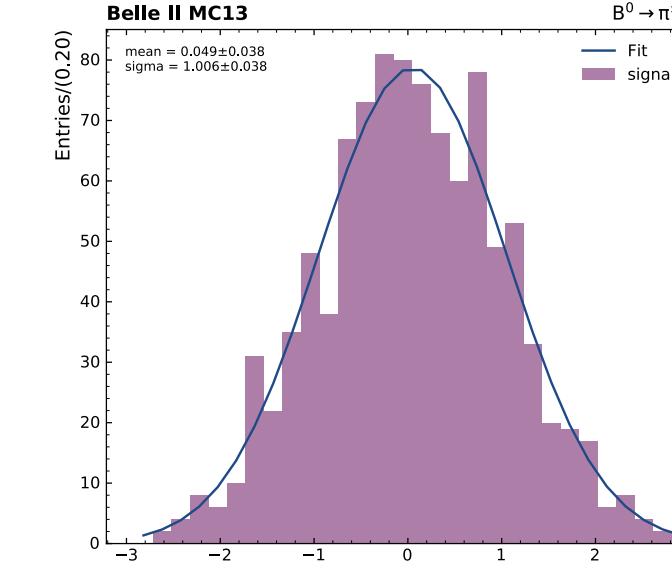
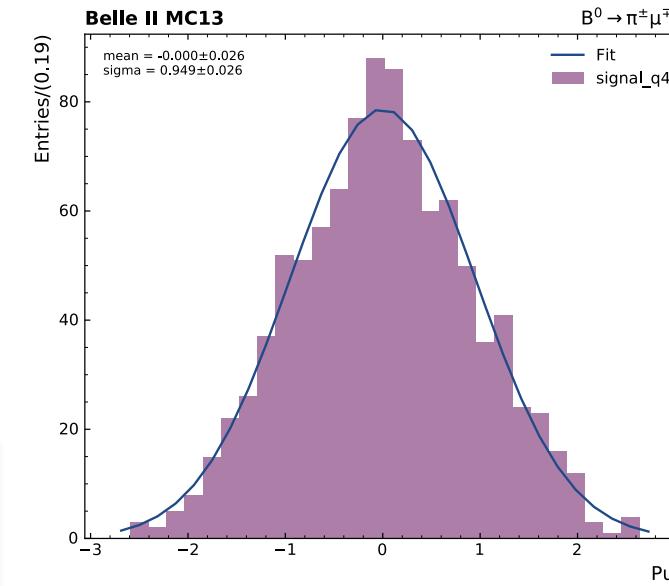
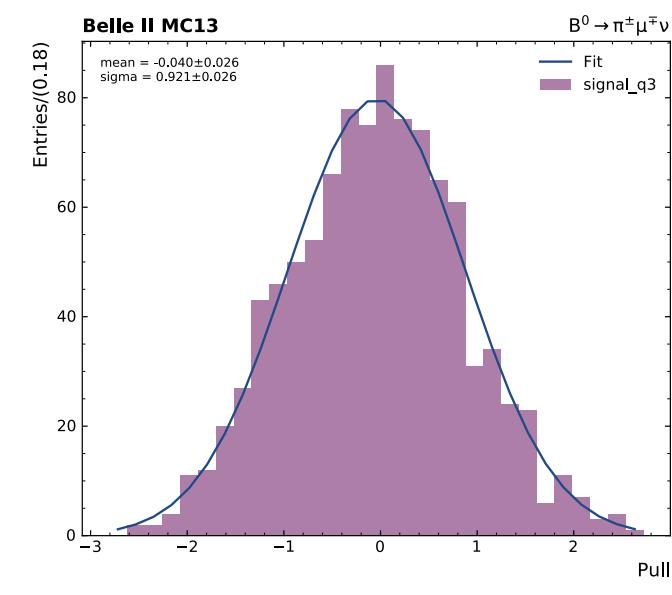
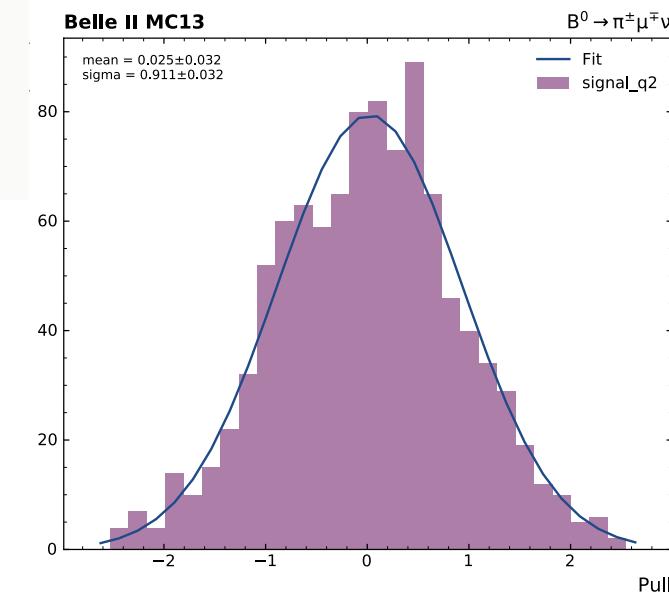
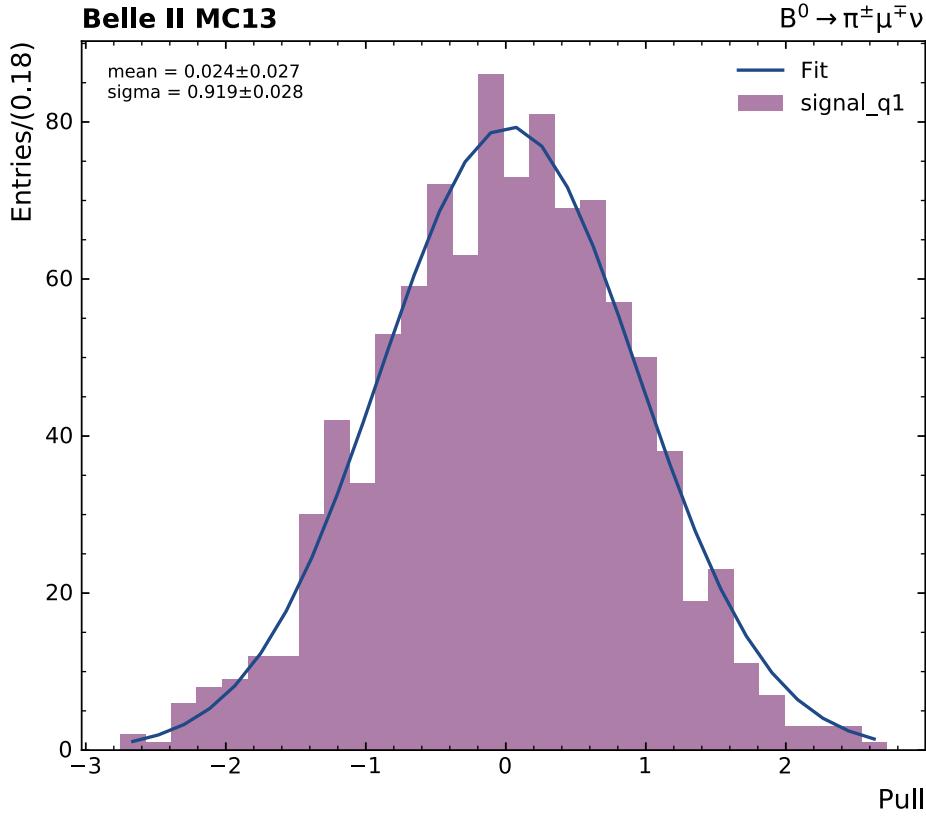
**Belle II Preliminary 2019**  
**Signal Region**  
 $B^0 \rightarrow \pi^\pm \mu^\mp \nu$   
 $\int \mathcal{L} dt = 50 \text{ fb}^{-1}$



# CORRELATIONS AND LIKELIHOODS



# PULLS



- Included in fit now:
  - MC stat uncertainty
  - Lepton ID cor uncertainties
  - Reweighting uncertainties
  - D\* FF uncertainties
- Efficiencies:
  - Corrected for leptonID
  - Also include uncertainties
- Next:
  - Xu exclusive FF
  - Hybrid Model