



Dim8 Status for SnowMass EWK

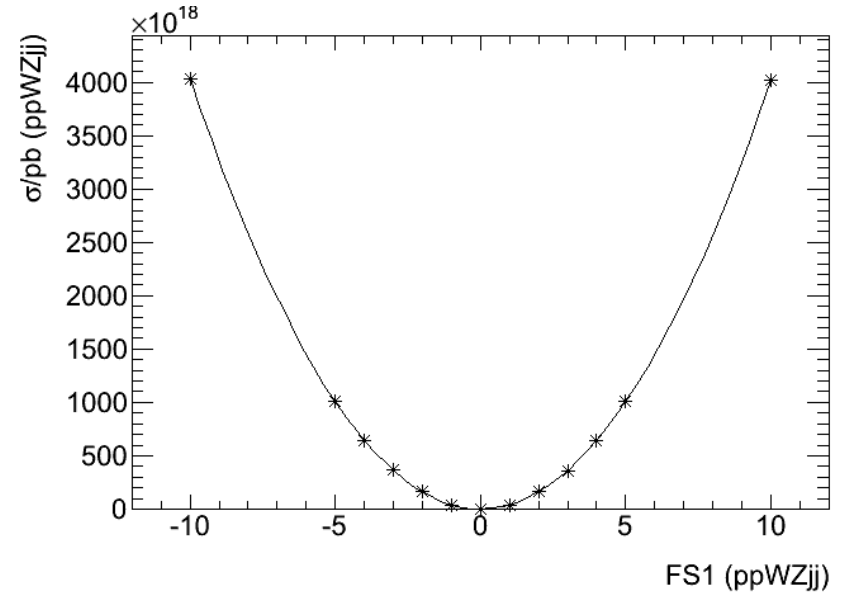
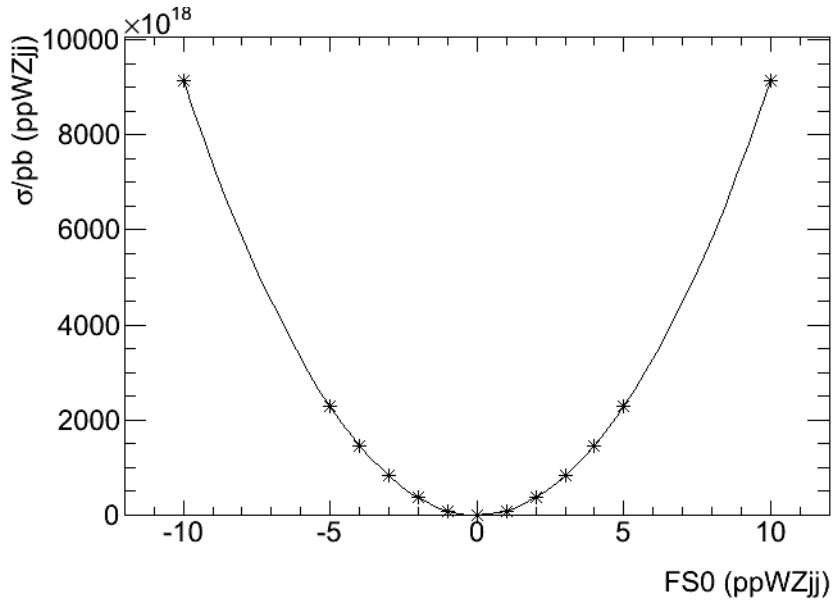
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+ Status

- Converged with Jessica in dim6 mg5 cross check
- Migrating from dim6 to dim8 operators
- First xsec results of WZjj w/ dim8
- producing zzjj and wzjj distributions
 - Still have a problem generating WZjj events, Olivier and Oscar are investigating
 - zzjj jobs still running mg5 and delphes 3
 - (50k evt time-consumption: ~40h X 8 CPU-cores)

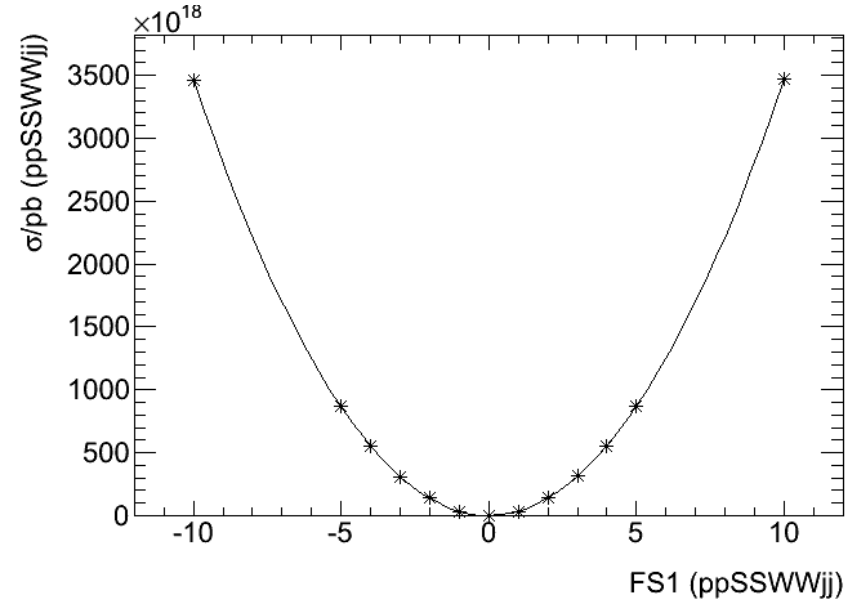
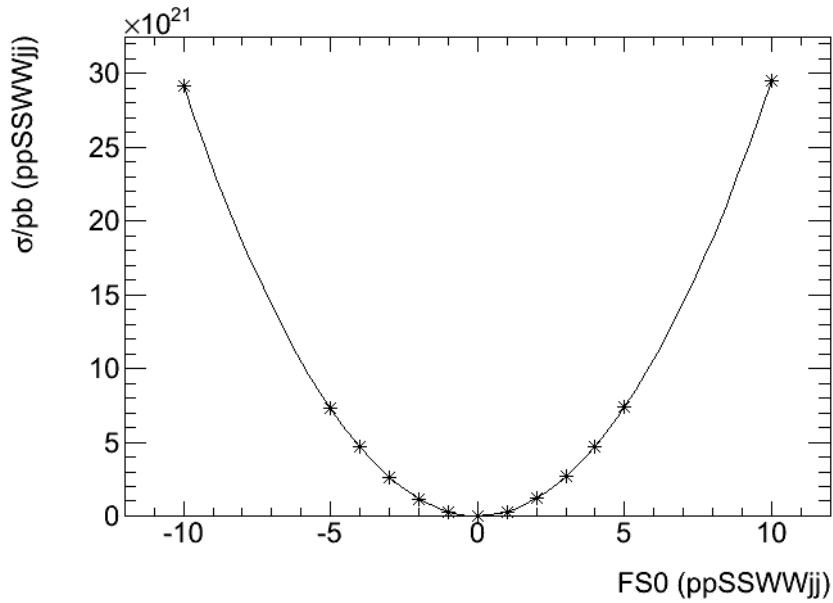


First look at the dim8 operators in WZjj





First look at the dim8 operators in SS WWjj



+ backup



$$\mathcal{L}_{S,0} = \left[(D_\mu \Phi)^\dagger D_\nu \Phi \right] \times \left[(D^\mu \Phi)^\dagger D^\nu \Phi \right]$$

$$\mathcal{L}_{S,1} = \left[(D_\mu \Phi)^\dagger D^\mu \Phi \right] \times \left[(D_\nu \Phi)^\dagger D^\nu \Phi \right]$$

$$\mathcal{L}_{M,0} = \text{Tr} \left[\hat{W}_{\mu\nu} \hat{W}^{\mu\nu} \right] \times \left[(D_\beta \Phi)^\dagger D^\beta \Phi \right]$$

$$\mathcal{L}_{M,1} = \text{Tr} \left[\hat{W}_{\mu\nu} \hat{W}^{\nu\beta} \right] \times \left[(D_\beta \Phi)^\dagger D^\mu \Phi \right]$$

$$\mathcal{L}_{M,2} = [B_{\mu\nu} B^{\mu\nu}] \times \left[(D_\beta \Phi)^\dagger D^\beta \Phi \right]$$

$$\mathcal{L}_{M,3} = [B_{\mu\nu} B^{\nu\beta}] \times \left[(D_\beta \Phi)^\dagger D^\mu \Phi \right]$$

$$\mathcal{L}_{M,4} = \left[(D_\mu \Phi)^\dagger \hat{W}_{\beta\nu} D^\mu \Phi \right] \times B^{\beta\nu}$$

$$\mathcal{L}_{M,5} = \left[(D_\mu \Phi)^\dagger \hat{W}_{\beta\nu} D^\nu \Phi \right] \times B^{\beta\mu}$$

$$\mathcal{L}_{M,6} = \left[(D_\mu \Phi)^\dagger \hat{W}_{\beta\nu} \hat{W}^{\beta\nu} D^\mu \Phi \right]$$

$$\mathcal{L}_{M,7} = \left[(D_\mu \Phi)^\dagger \hat{W}_{\beta\nu} \hat{W}^{\beta\mu} D^\nu \Phi \right]$$

$$\mathcal{L}_{T,0} = \text{Tr} \left[\hat{W}_{\mu\nu} \hat{W}^{\mu\nu} \right] \times \text{Tr} \left[\hat{W}_{\alpha\beta} \hat{W}^{\alpha\beta} \right]$$

$$\mathcal{L}_{T,1} = \text{Tr} \left[\hat{W}_{\alpha\nu} \hat{W}^{\mu\beta} \right] \times \text{Tr} \left[\hat{W}_{\mu\beta} \hat{W}^{\alpha\nu} \right]$$

$$\mathcal{L}_{T,2} = \text{Tr} \left[\hat{W}_{\alpha\mu} \hat{W}^{\mu\beta} \right] \times \text{Tr} \left[\hat{W}_{\beta\nu} \hat{W}^{\nu\alpha} \right]$$

$$\mathcal{L}_{T,5} = \text{Tr} \left[\hat{W}_{\mu\nu} \hat{W}^{\mu\nu} \right] \times B_{\alpha\beta} B^{\alpha\beta}$$

$$\mathcal{L}_{T,6} = \text{Tr} \left[\hat{W}_{\alpha\nu} \hat{W}^{\mu\beta} \right] \times B_{\mu\beta} B^{\alpha\nu}$$

$$\mathcal{L}_{T,7} = \text{Tr} \left[\hat{W}_{\alpha\mu} \hat{W}^{\mu\beta} \right] \times B_{\beta\nu} B^{\nu\alpha}$$

$$\mathcal{L}_{T,8} = B_{\mu\nu} B^{\mu\nu} B_{\alpha\beta} B^{\alpha\beta}$$

$$\mathcal{L}_{T,9} = B_{\alpha\mu} B^{\mu\beta} B_{\beta\nu} B^{\nu\alpha}$$