

Common discussion



Hwidong Yoo
Purdue University

On behalf of the **the LHC W&Z Precision Measurement WG**

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Lepton Definition

- Three definition for leptons (same as ATLAS presentation in kick-off meeting)
 - Born: right after W/Z decay, pre-FSR
 - Pythia status 3
 - Bare: final state lepton, post-FSR
 - Pythia status 1
 - Dressed: final state lepton + close-by photons
 - Partial correction QED FSR on generator level
- Results
 - ATLAS: dressed and full QED corrected
 - Use unfolding method (cone size < 0.1)
 - CMS: bare lepton, correction is applied using Pythia modeling
 - bin-by-bin or unfolding methods
 - LHCb: Born level (FSR from Photos), but FSR correction is given (bare level cross section can be calculated)

Selections

	ATLAS	CMS	LHCb
Pt	Depends on the trigger threshold		
Electron eta	eta < 2.5		2 < eta < 4.5
Muon eta	eta < 2.4		
Z mass Peak	66 < M < 116	60 < M < 120	
MET	MET > 25 GeV	No cut	
MT	MT > 40 GeV	No cut	

Binning

- Lepton pseudorapidity
 - ATLAS: 0 0.21 0.42 0.63 0.84 1.05 1.37 1.52 1.74 1.95 2.18 2.4 (2.47) for muon (electron)
 - Extrapolation to 2.5 for both muon and electron channels
 - CMS: 0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.85 2.1 2.4
 - LHCb: 2.0 – 4.5 with 0.5 bin size
- Z (dilepton) rapidity
 - ATLAS: 0 – 3.6 with 0.4 bin size
 - CMS: 0 – 3.5 with 0.1 bin size
 - LHCb: 2.0 – 4.5 with 0.5 bin size
- Z (dilepton) p_t
 - ATLAS: 0 3 6 9 12 15 18 21 24 27 30 36 42 48 54 60 80 100 180 350
 - CMS: 0 2.5 5 7.5 10 12.5 15 17.5 20 30 40 50 70 90 110 150 190 250 600
 - LHCb: 0 10 20 30 50 90 (preliminary)