

Weekly meeting

Danyi Zhang

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Parton shower systematics

- related to algorithmic or parametric differences in the modelling of the parton shower
- variations of the resummation scale, matching scales or algorithmic changes in the parton shower
- Samples: new minitrees v25, but samples for VBF sys is not ready
- Only used qqZZ samples

Parton shower systematics

- Samples:

qqZZ samples

DSID	Minitree	Version	Filter	Notes
364250	mc16_13TeV.364250.Sherpa_222_NNP30NNLO_III.root	v25	Overlap removal 100-170 GeV	
364251	mc16_13TeV.364251.Sherpa_222_NNP30NNLO_III_m4l100_300_filt100_150.root	v25	m4l 100-300 GeV , filter 100-150 GeV	[1] [2]
346899	mc16_13TeV.346899.Sherpa_222_NNP30NNLO_III_m4l100_300_filt100_170.root	v25	m4l 100-300 GeV , filter 100-170 GeV	[2]
364252	mc16_13TeV.364252.Sherpa_222_NNP30NNLO_III_m4l300.root	v25	m4l>300 GeV	

[1] It should not be 'combined' with the unfiltered 364250 as the filter window in [OverlapRemoval.cxx](#) was changed to 100-170 [GeV](#) for 346899.

[2] The 'history' of the 100-150/170 samples is that one can have tau decays or mispairing, etc. which can have m4l_truth above 150 [GeV](#) generating m4l_fsr in 100-150 [GeV](#). So the generation is in a broader range.

- Weights:

```
Double_t weight_var_H4l_Shower_UEPS_Sherpa_CKKW__ldown;  
Double_t weight_var_H4l_Shower_UEPS_Sherpa_CKKW__lup;  
Double_t weight_var_H4l_Shower_UEPS_Sherpa_CSSKIN__lup;  
Double_t weight_var_H4l_Shower_UEPS_Sherpa_QSF__ldown;  
Double_t weight_var_H4l_Shower_UEPS_Sherpa_QSF__lup;
```

Parton shower systematics

- CKKW:

