

SUSY Validation

EVGEN validation of 13.0.30.2

Claire Gwenlan
UCL

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Samples Used

- 13.0.30.2 sample:
 - **evgen 13.0.30.2** (13.0.20.2 fastsim)
 - 15000 events analysed
 - valid1_005403.SU3_jimmy_susy.atlfast.NTUP.v13003002_tido15653
 - valid1_005403.SU3_jimmy_susy.atlfast.NTUP.v13003002_tido15654
 - valid1_005403.SU3_jimmy_susy.atlfast.NTUP.v13003002_tido15655

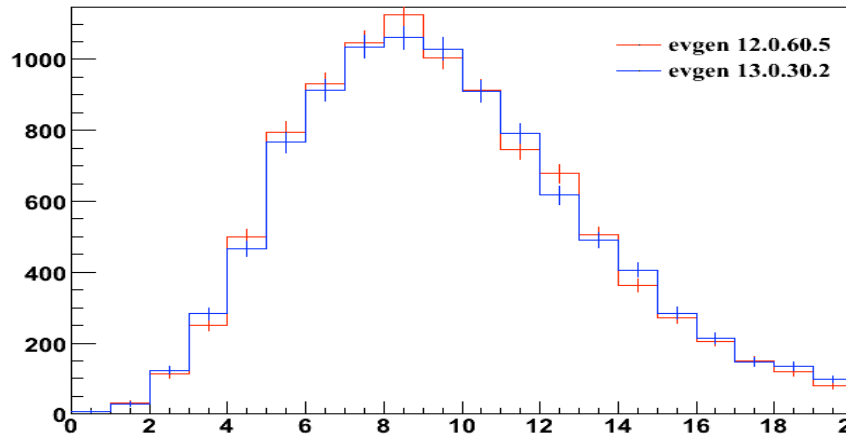
(NOTE: only 10000 events from _tido15653 and _tido1564 are shown in plots on subsequent slides in order to compare with reference statistics - BUT all events were checked)

- Reference sample: 13.0.30.2:
 - **evgen 12.0.6.5** (13.0.30.2 fastsim)
 - 10000 events from:
 - fast1_valid1.005403.SU3_jimmy_susy.atlfast.NTUP.v13003002_tido16181
 - fast1_valid1.005403.SU3_jimmy_susy.atlfast.NTUP.v13003002_tido16182

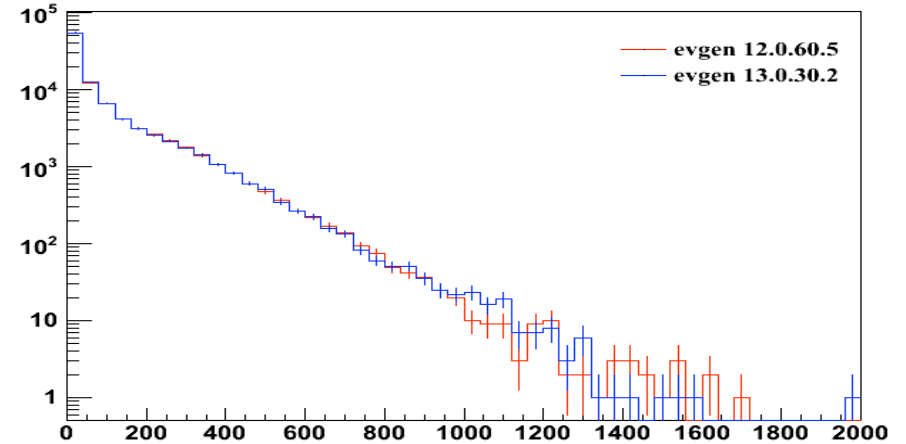
NB. Used these (atlfast) files, since the evgen CBNTs were unavailable

Jet multiplicity, p_T , eta and phi

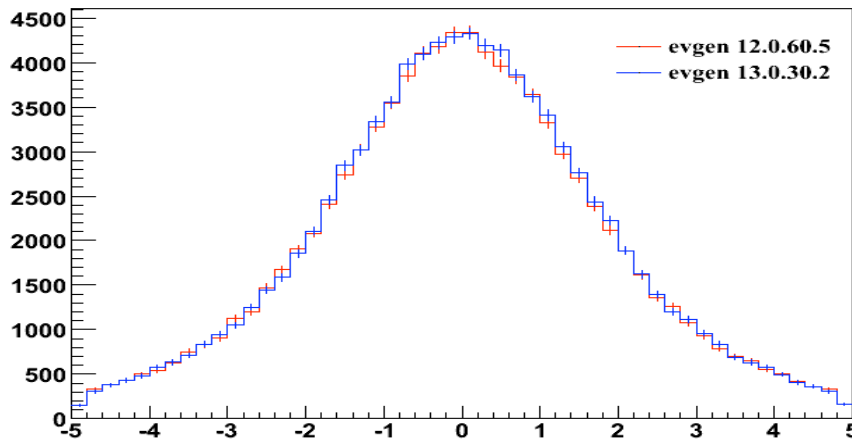
C4 Jet multiplicity



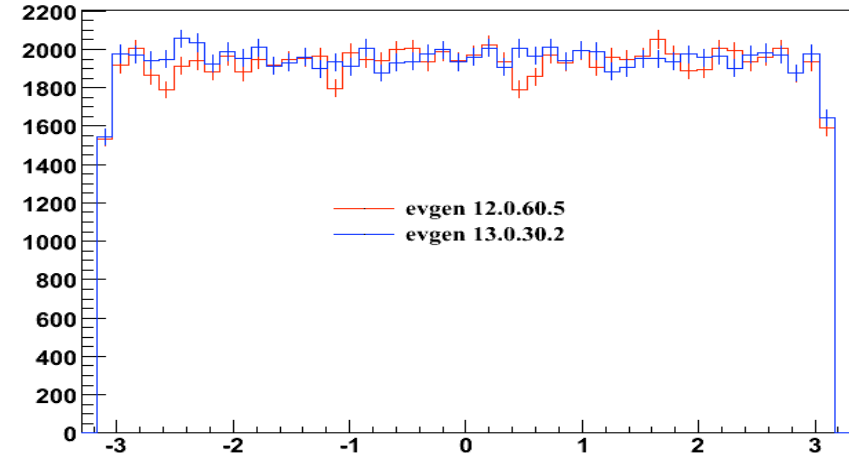
C4 Jet p_T



C4 Jet η



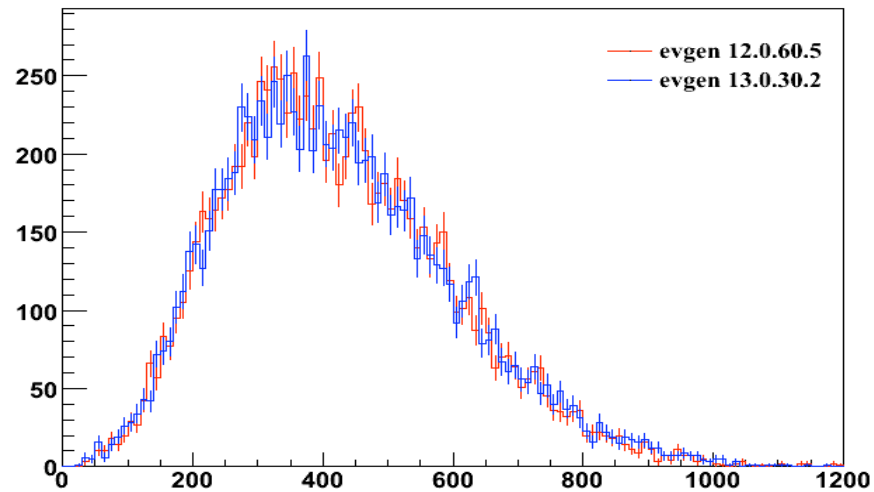
C4 Jet ϕ



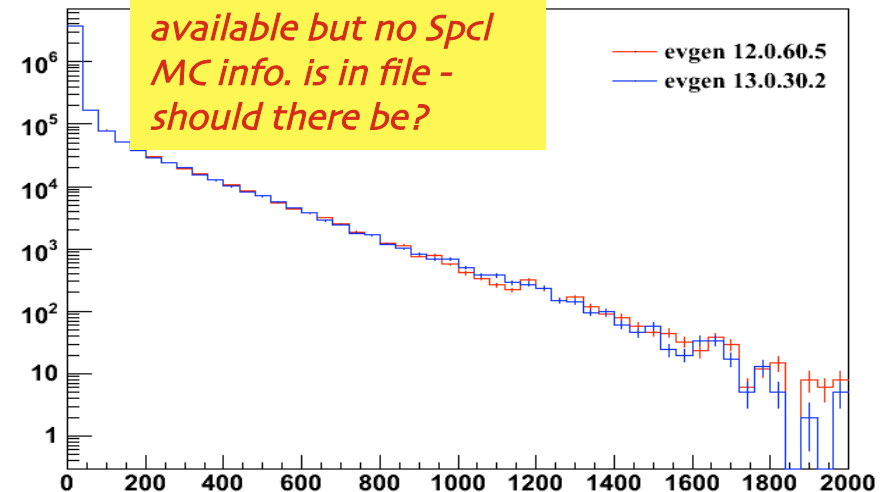
Jet distributions match OK - same is also true for other algorithms (Cn7, Kt4, Kt6)

Gen multiplicity p_T , eta and phi

Gen multiplicity

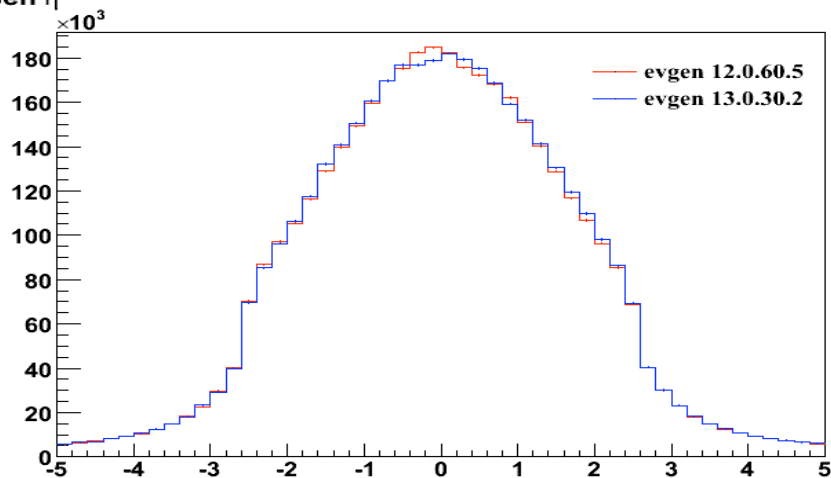


Gen p_T

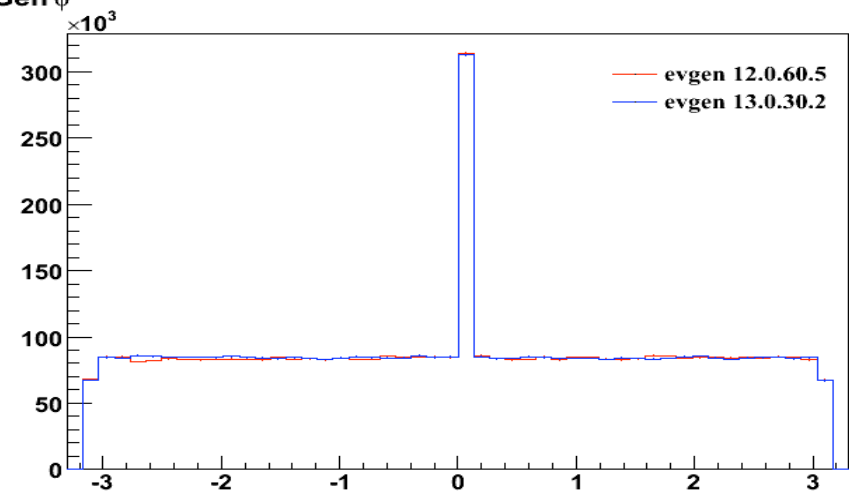


NB Gen information available but no Spcl MC info. is in file - should there be?

Gen η

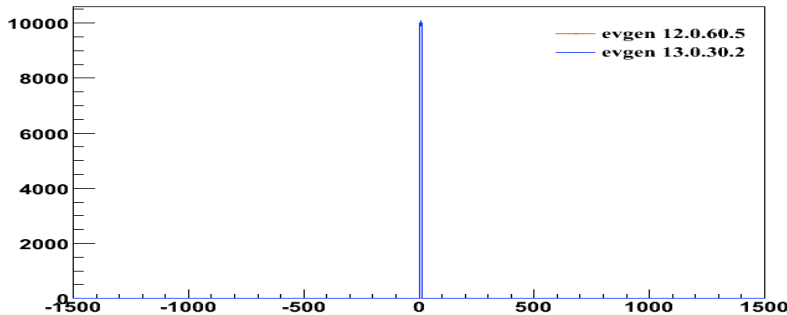


Gen ϕ

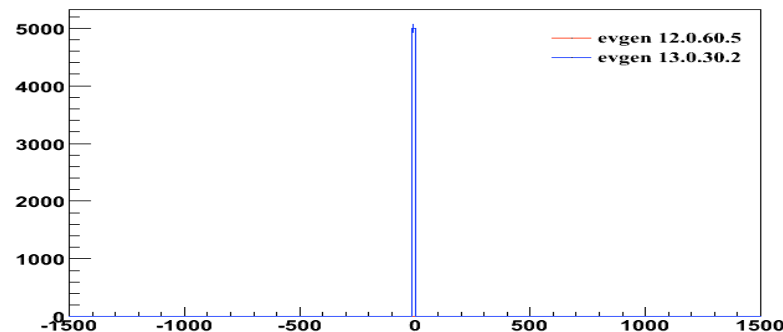


Missing ET

Missing ETx Truth Int



Missing ETy Truth Int

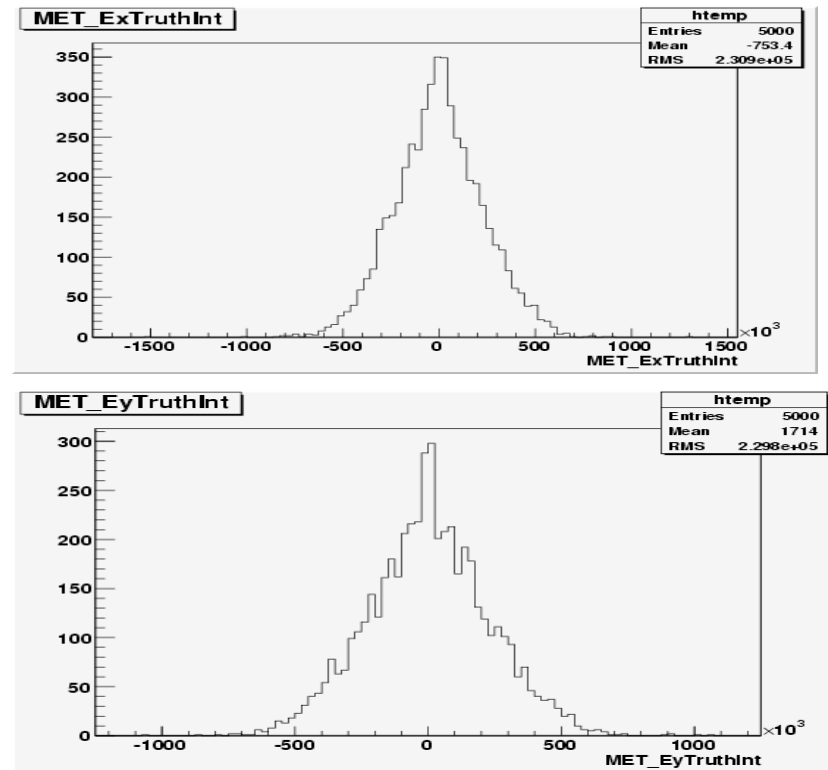


No truth MET information?

(1 example shown above, but same is true for all MET variables e.g. Int, NonInt, IntCentral, IntFwd, Muon, ...)

NB. For some MET variables, value is not 0 - but is always a single value e.g. MET_ExTruthIntCentral = -2

csc11.005403.SU3_jimmy_susy.atlfast.NTUP.v12000601



Did a quick check in a v12.0.6.1 file:
MET information seems OK in that!

Summary and Comments

CAVEATS:- due to only getting some files rather late last night, this is possibly not comprehensive yet...HOWEVER (interim conclusions)

- Jets quantities look OK
- No SpclMC information?
(v12.o.6.1 atlfast.NTUP files seem to have it)
- Something amiss with the MET information?
(again v12.o.6.1 atlfast.NTUP look OK)

MC people have been contacted (last night) regarding last two issues...

Thanks to Nurcan Ozturk for lots of help given to a "beginner"