

# Jet trigger validation

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For the jet trigger signature group

# Sample A ttbar alidation for MC15a

Task	Test	Tags / container	?
1	1	s2578_r6588 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>No pileup</b>  <b>Reference: 20.1.4.3</b> <b>Test: 20.1.4.5</b>		s2578_r6588 run_1/HLT/JetMon/HLT/a4tciemjesFS	OK
		s2578_r6588 run_1/HLT/JetMon/HLT/a4tciemjesPS	OK
		s2578_r6588 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6588 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6588 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK
1	2	s2578_r6589 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>No pileup</b>  <b>As test 1 but SDR-28 conditions</b>		s2578_r6589 run_1/HLT/JetMon/HLT/a4tciemjesFS	OK
		s2578_r6589 run_1/HLT/JetMon/HLT/a4tciemjesPS	OK
		s2578_r6589 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6589 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6589 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK

# Sample A ttbar validation for MC15a

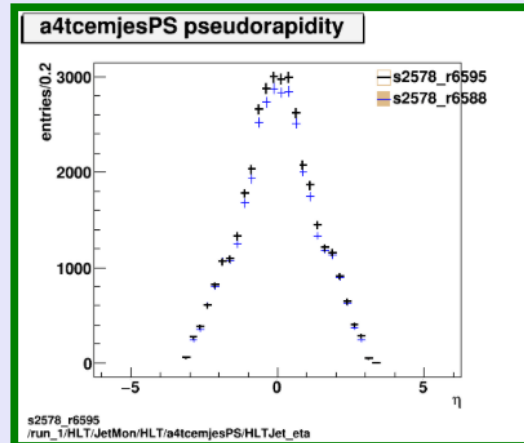
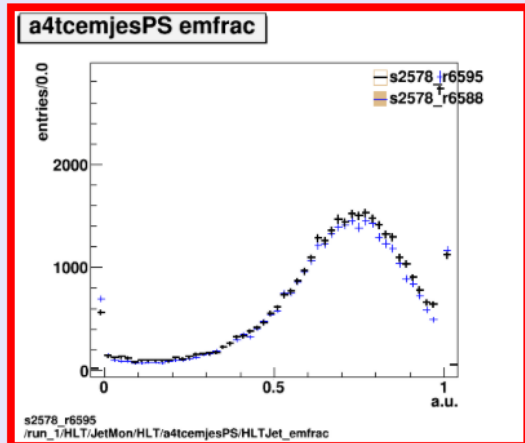
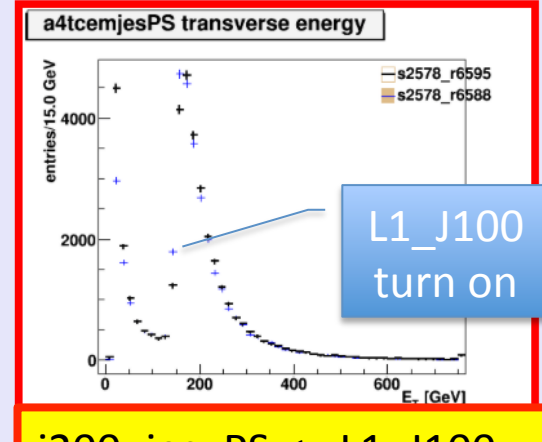
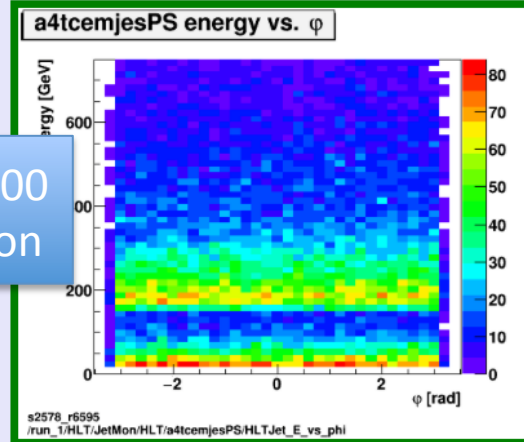
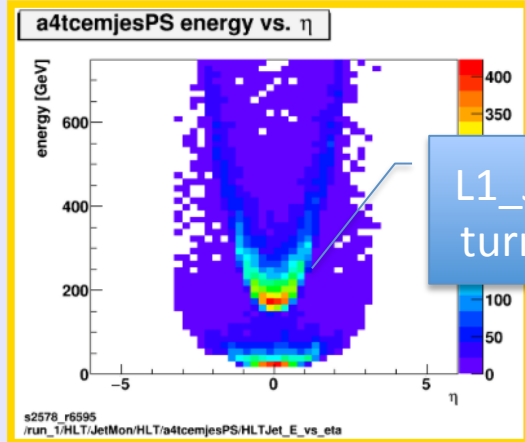
Task	Test	Tags / container	?
2	1	s2578_r6590 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>Ref.: no pileup</b>		s2578_r6590 run_1/HLT/JetMon/HLT/a4tcemjesFS	OK
<b>Test: 50 ns pileup</b>		s2578_r6590 run_1/HLT/JetMon/HLT/a4tcemjesPS	OK
		s2578_r6590 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6590 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6590 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK
2	2	s2578_r6591 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>As test 1 but digitization time window set via pileupFinalBunch = 6</b>		s2578_r6591 run_1/HLT/JetMon/HLT/a4tcemjesFS	OK
		s2578_r6591 run_1/HLT/JetMon/HLT/a4tcemjesPS	OK
		s2578_r6591 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6591 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6591 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK

# Sample A ttbar validation for MC15a

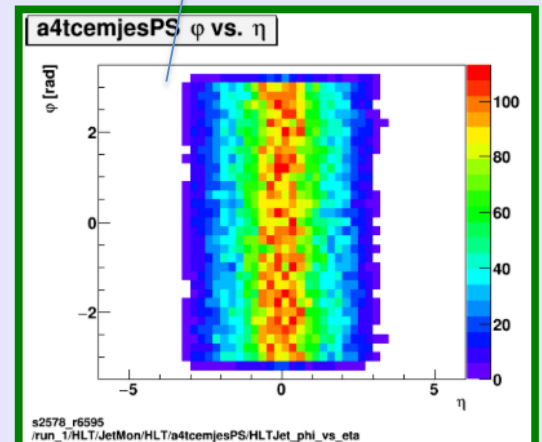
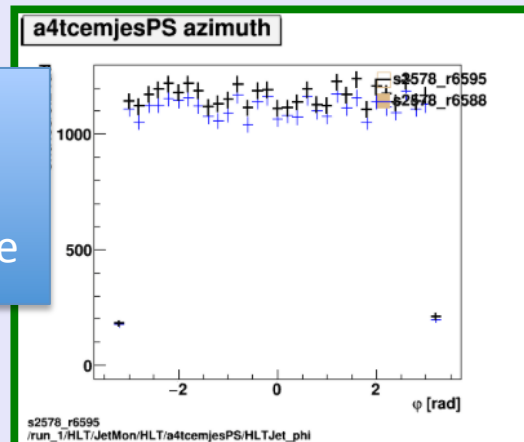
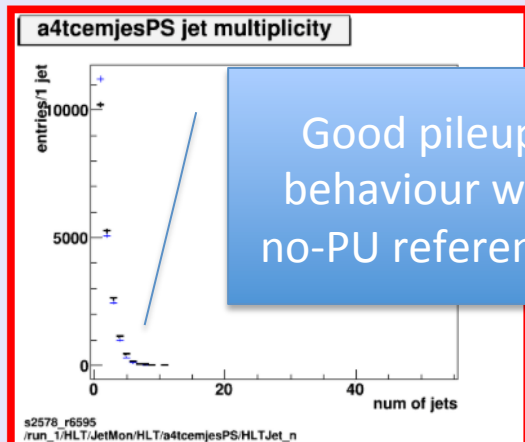
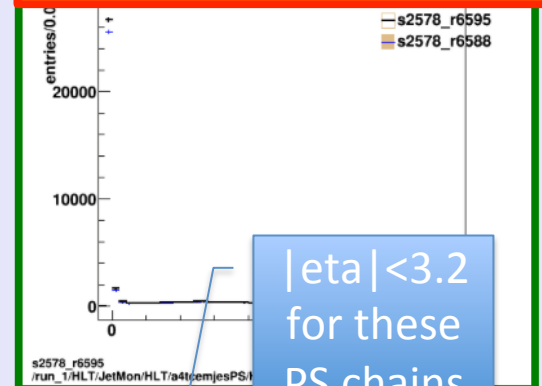
Task	Test	Tags / container	?
2	3	s2578_r6593 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>Ref.: no pileup</b>  <b>Test: 50 ns pileup</b> <b>SDR-26 for updated</b> <b>LCW for jets</b>		s2578_r6593 run_1/HLT/JetMon/HLT/a4tciemjesFS	OK
		s2578_r6593 run_1/HLT/JetMon/HLT/a4tciemjesPS	OK
		s2578_r6593 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6593 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6593 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK
2	4	s2578_r6594 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>Ref.: no pileup</b>  <b>Test: 50 ns pileup</b> <b>As test 3 but with</b> <b>SDR-28 to test dead</b> <b>maps and b-tag calib</b>		s2578_r6594 run_1/HLT/JetMon/HLT/a4tciemjesFS	OK
		s2578_r6594 run_1/HLT/JetMon/HLT/a4tciemjesPS	OK
		s2578_r6594 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6594 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6594 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK

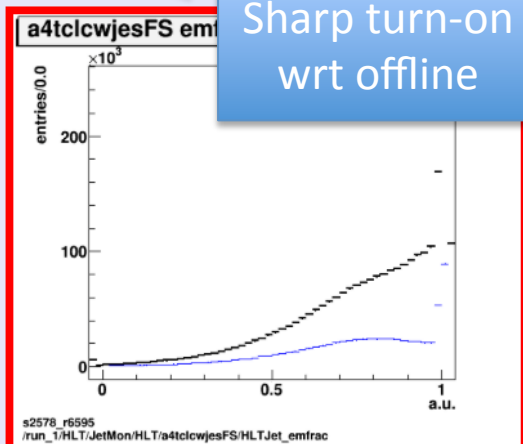
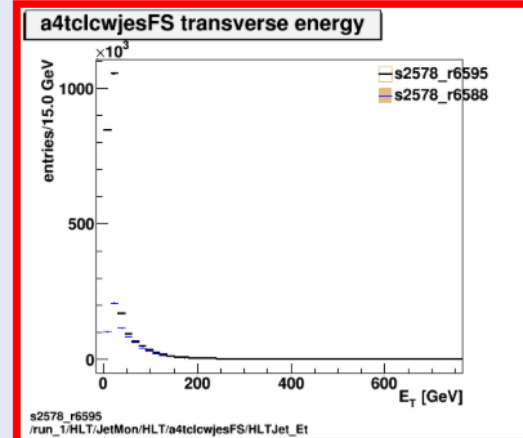
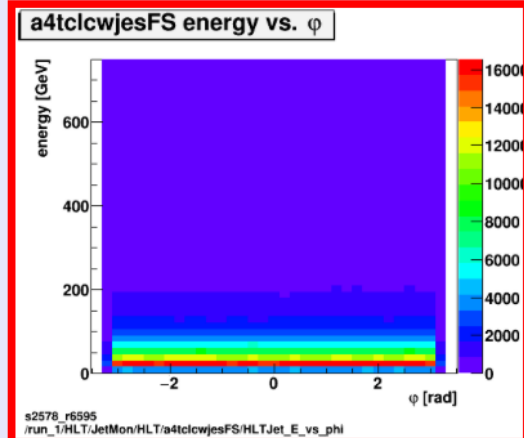
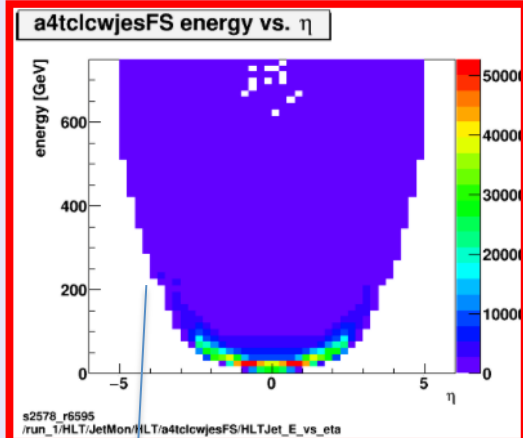
# Sample A ttbar validation for MC15a

Task	Test	Tags / container	?
2	5	s2578_r6595 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>Ref.: no pileup</b>  <b>Test: 50 ns pileup</b> <b>As test 3 but with AthenaMP</b>		s2578_r6595 run_1/HLT/JetMon/HLT/a4tcemjesFS	OK
		s2578_r6595 run_1/HLT/JetMon/HLT/a4tcemjesPS	OK
		s2578_r6595 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6595 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6595 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK
3		s2578_r6596 run_1/HLT/JetMon/HLT/a10tcemsubFS	OK
<b>Ref.1: no pileup</b> <b>Ref.:2: 50ns pileup</b> <b>Test: 25 ns pileup</b>		s2578_r6596 run_1/HLT/JetMon/HLT/a4tcemjesFS	OK
		s2578_r6596 run_1/HLT/JetMon/HLT/a4tcemjesPS	OK
		s2578_r6596 run_1/HLT/JetMon/HLT/a4tcemsubFS	OK
		s2578_r6596 run_1/HLT/JetMon/HLT/a4tcemsubjesFS	OK
		s2578_r6596 run_1/HLT/JetMon/HLT/a4tclcwjesFS	OK

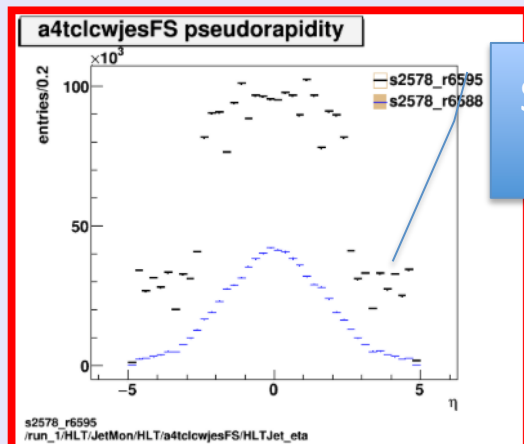


j200\_jes\_PS <= L1\_J100  
3j175\_jes\_PS <= L1\_J100

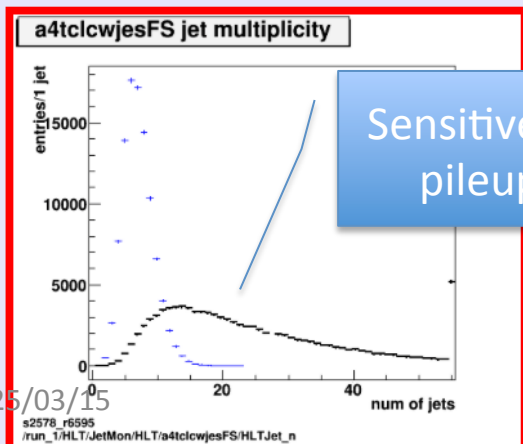
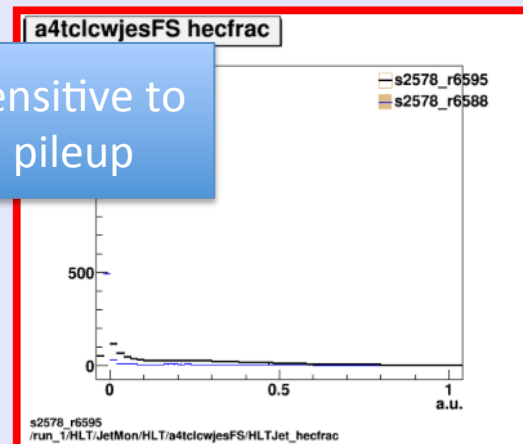




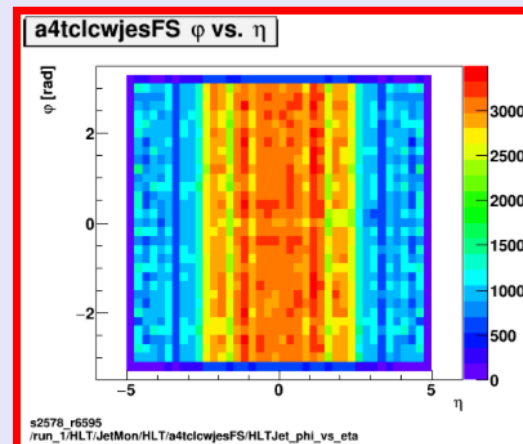
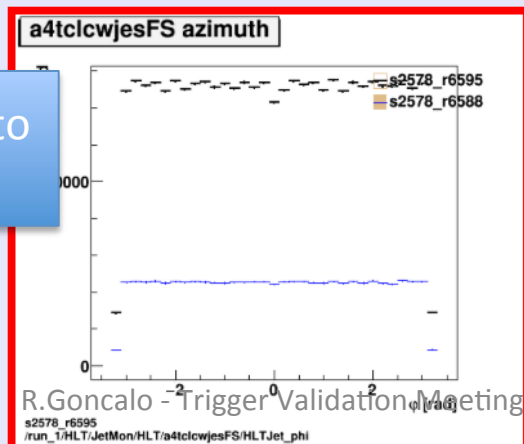
Sharp turn-on wrt offline



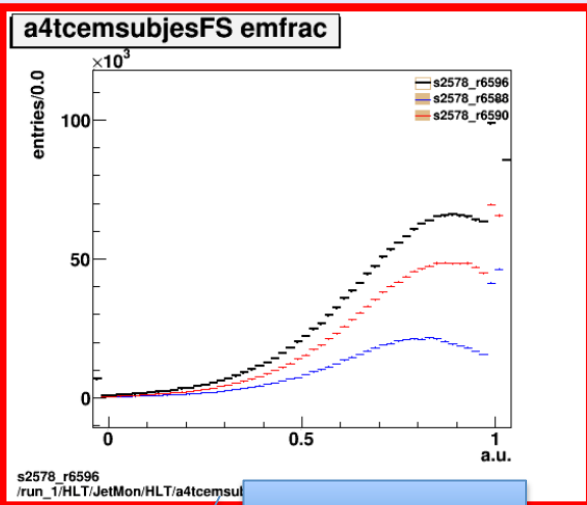
Sensitive to pileup



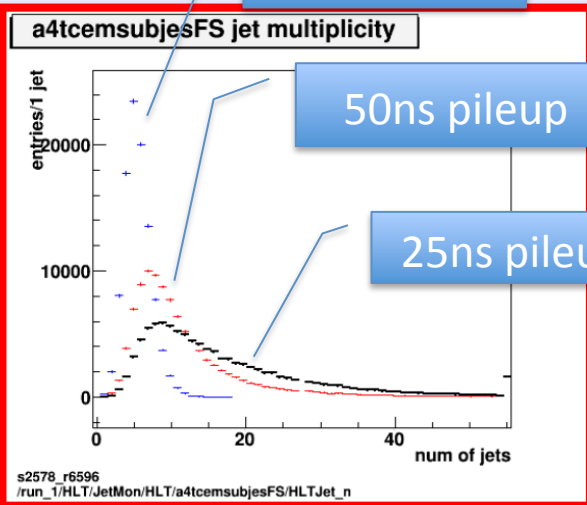
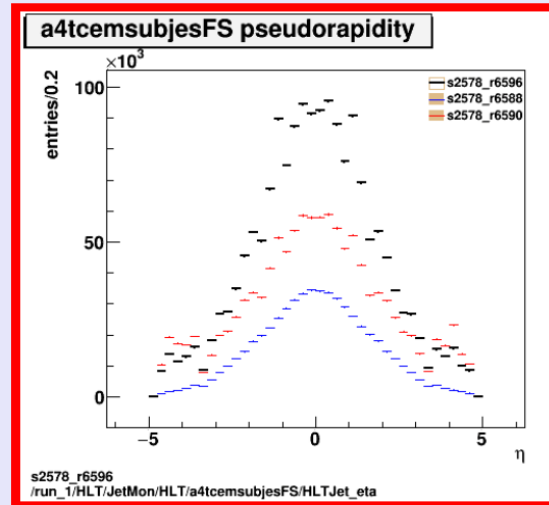
Sensitive to pileup



# Histograms

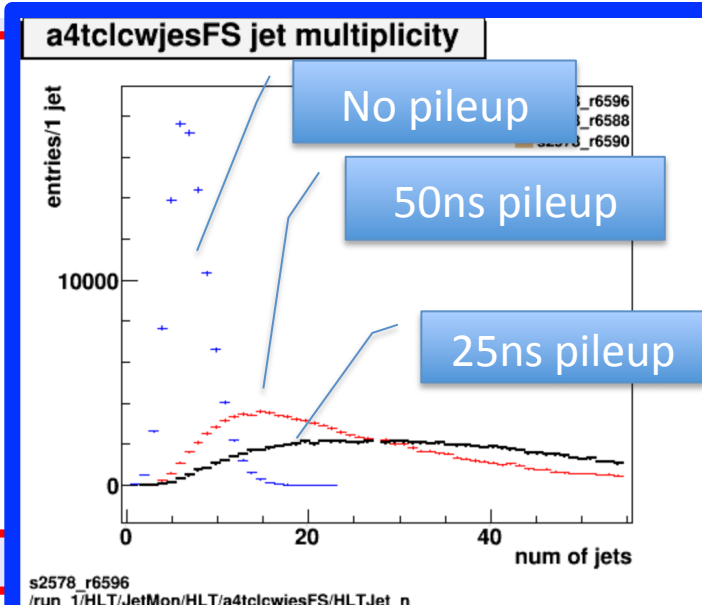
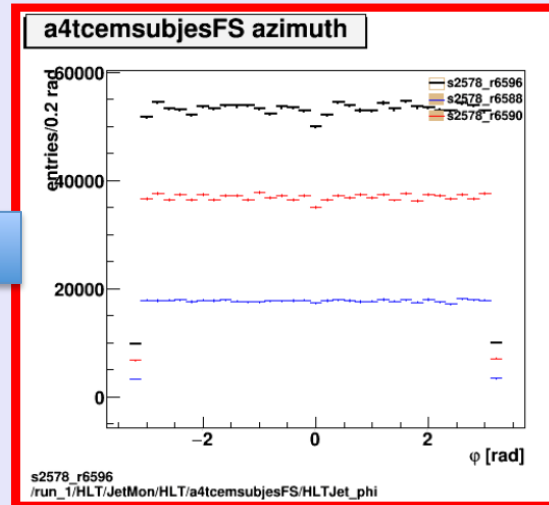


No pileup



50ns pileup

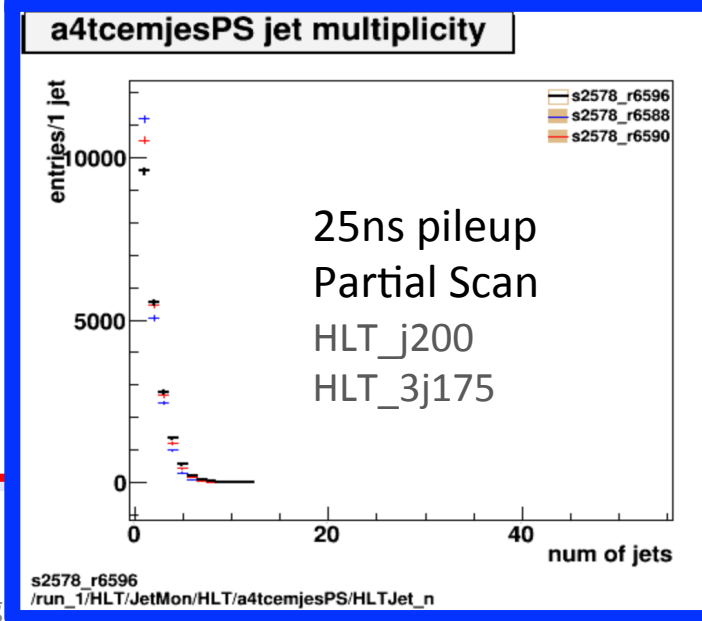
25ns pileup



No pileup

50ns pileup

25ns pileup



25ns pileup  
Partial Scan  
HLT\_j200  
HLT\_3j175

s2578\_r6596 run\_1/HLT/JetMon/HLT/a4tcemsubjesFS



# Summary

- Features of different calibrations etc clearly visible in plots
- Effect of different pileup scenarios also clear:
  - 50ns pileup increases number of jets
  - 25ns pileup results in even more jets
  - LCW seems more sensitive to pileup jets than EM+JES
- No bad surprises!...