Evals 1 vs Evals 6

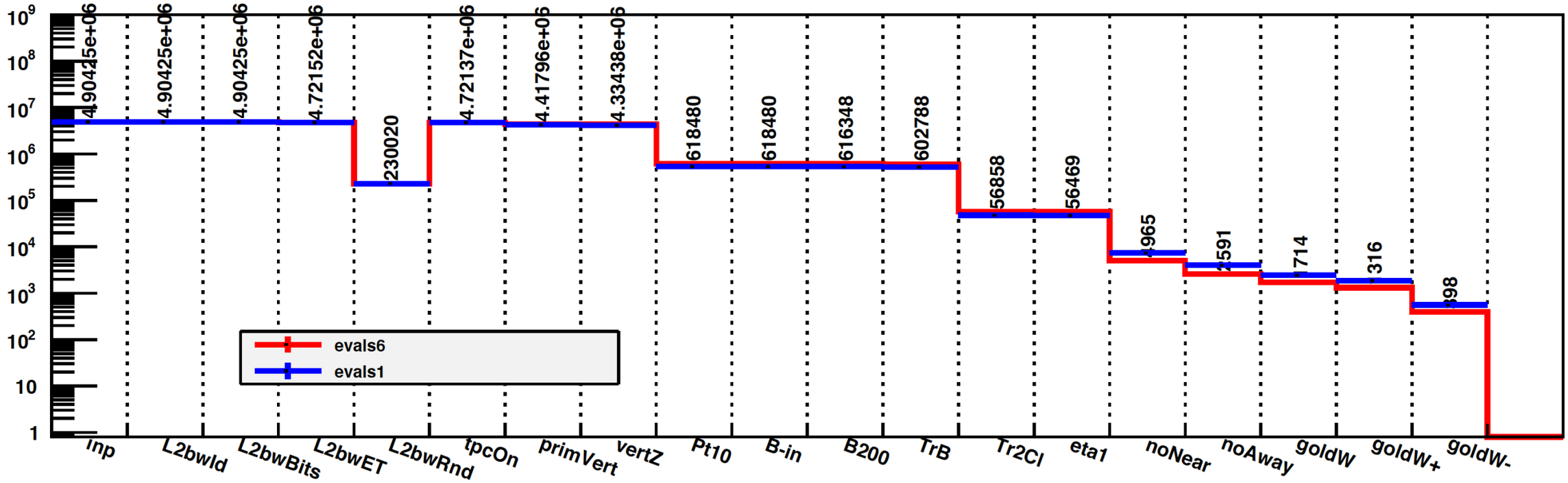
apple- to -apple comparison

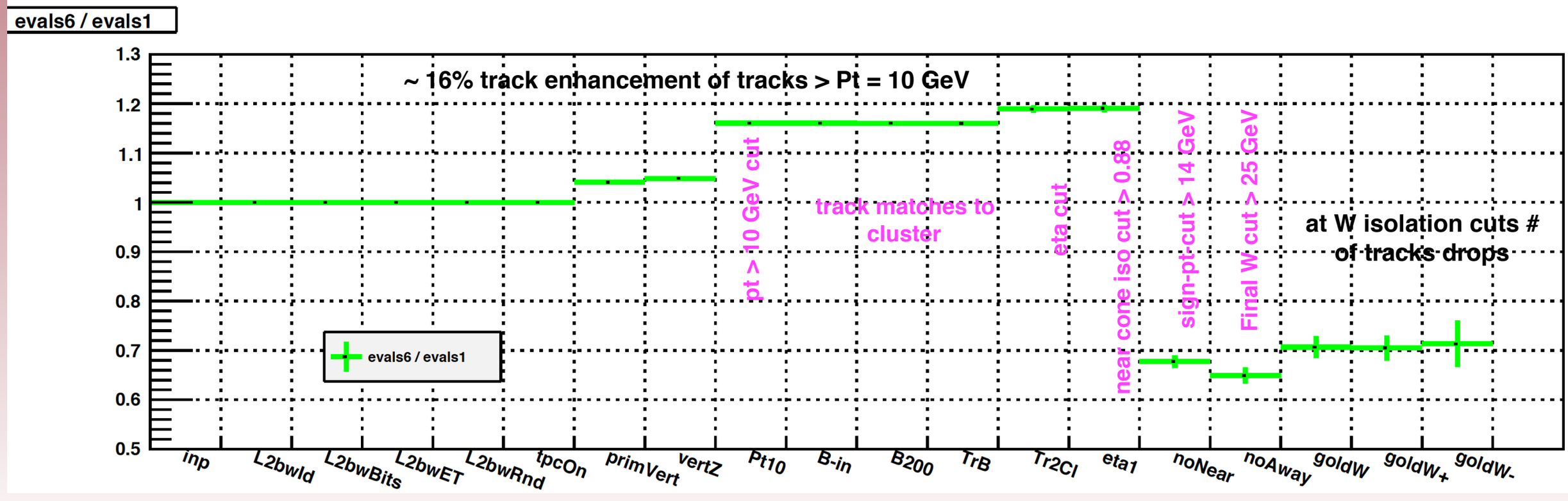
To investigate the difference between with and without TPC hits reuse for other tracks in STI

Production	Production Library [also W-code compiled library]	Tracking	vertex finding	BEMC-gains	# of runs used in the comparison	# of events
“evals1”	SL16b	STI	PPV_W	run 12 - 200 GeV	516	4904252
“evals6”	EVAL	STI_updated	PPV_W	run 12 - 200 GeV	516	4904252

STI_updated = Option to reuse hits for tracks in enabled!

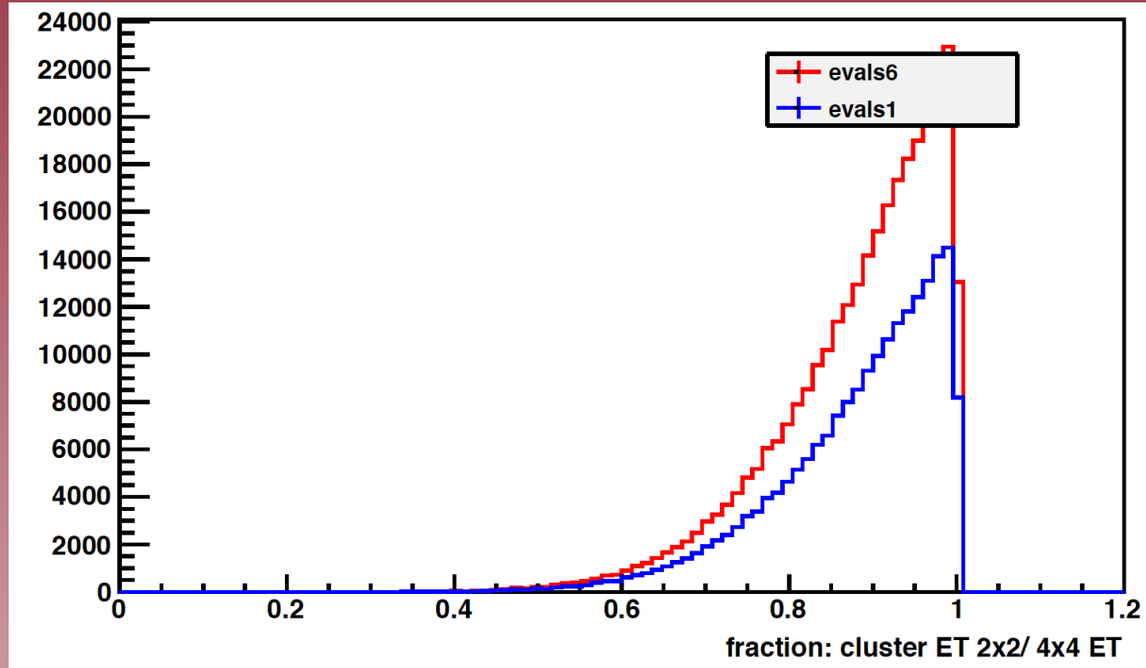
Events Counts as a function of W cuts

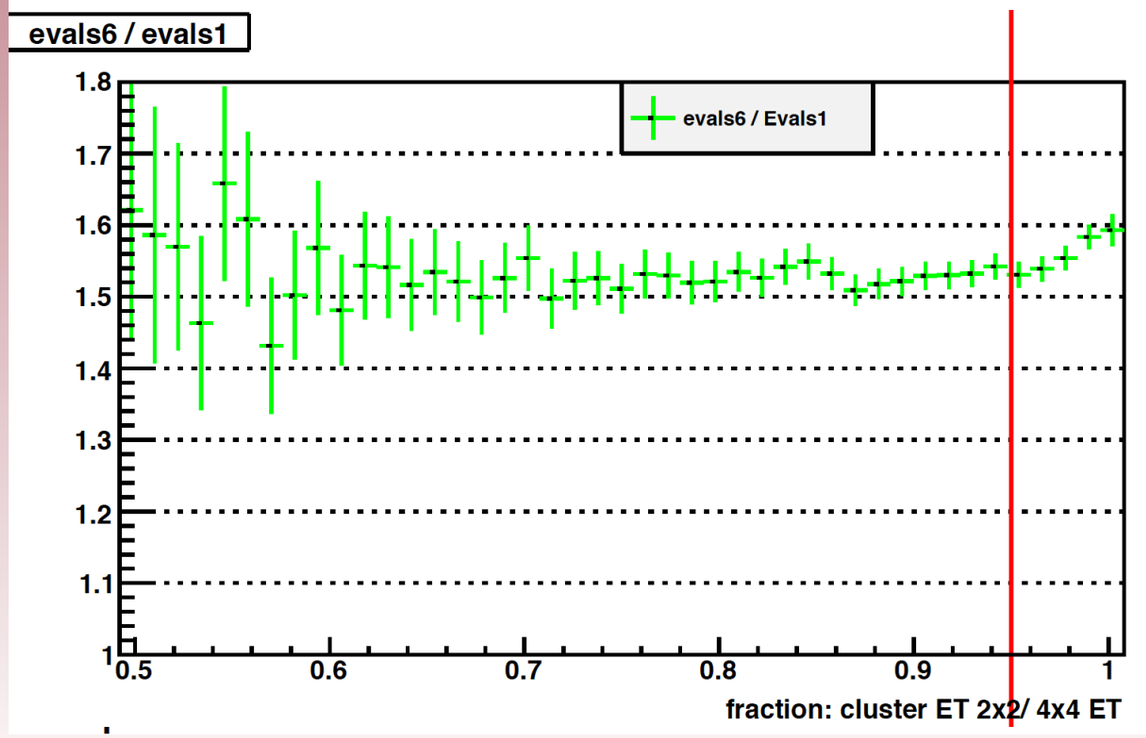




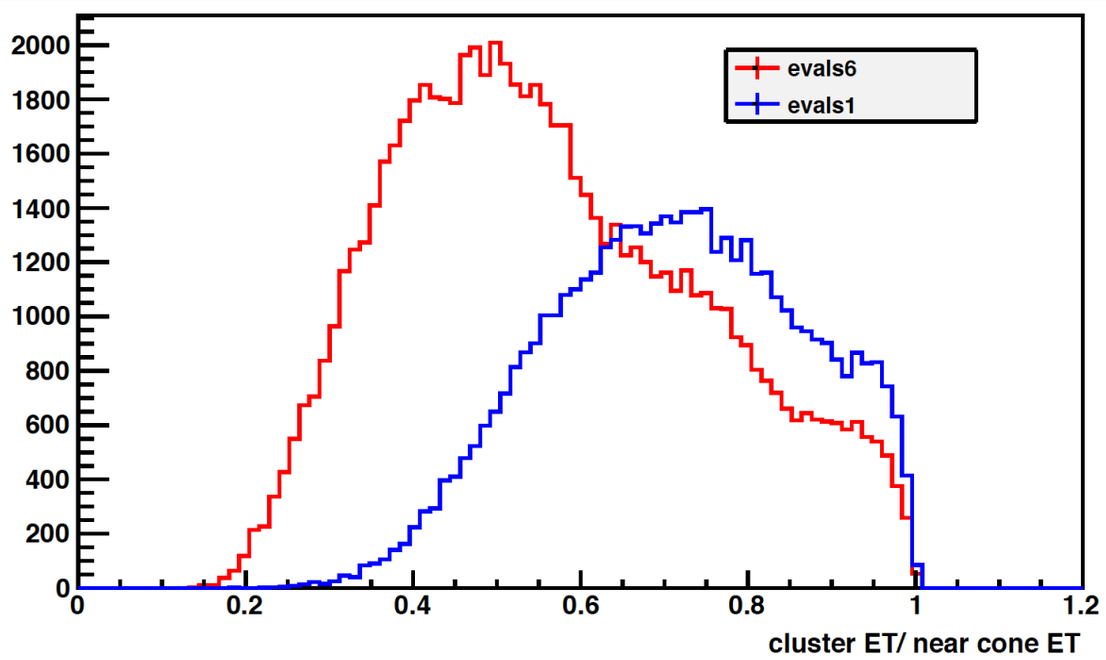
W Isolation Cuts

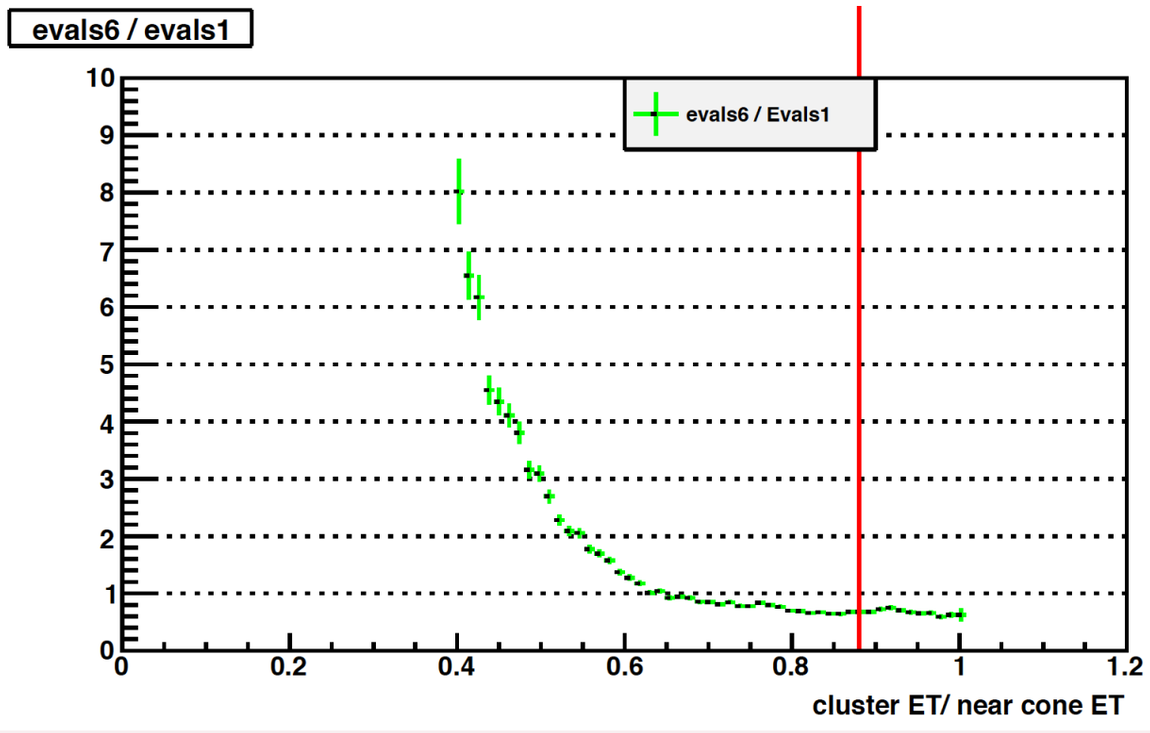
2x2 / 4x4 cluster





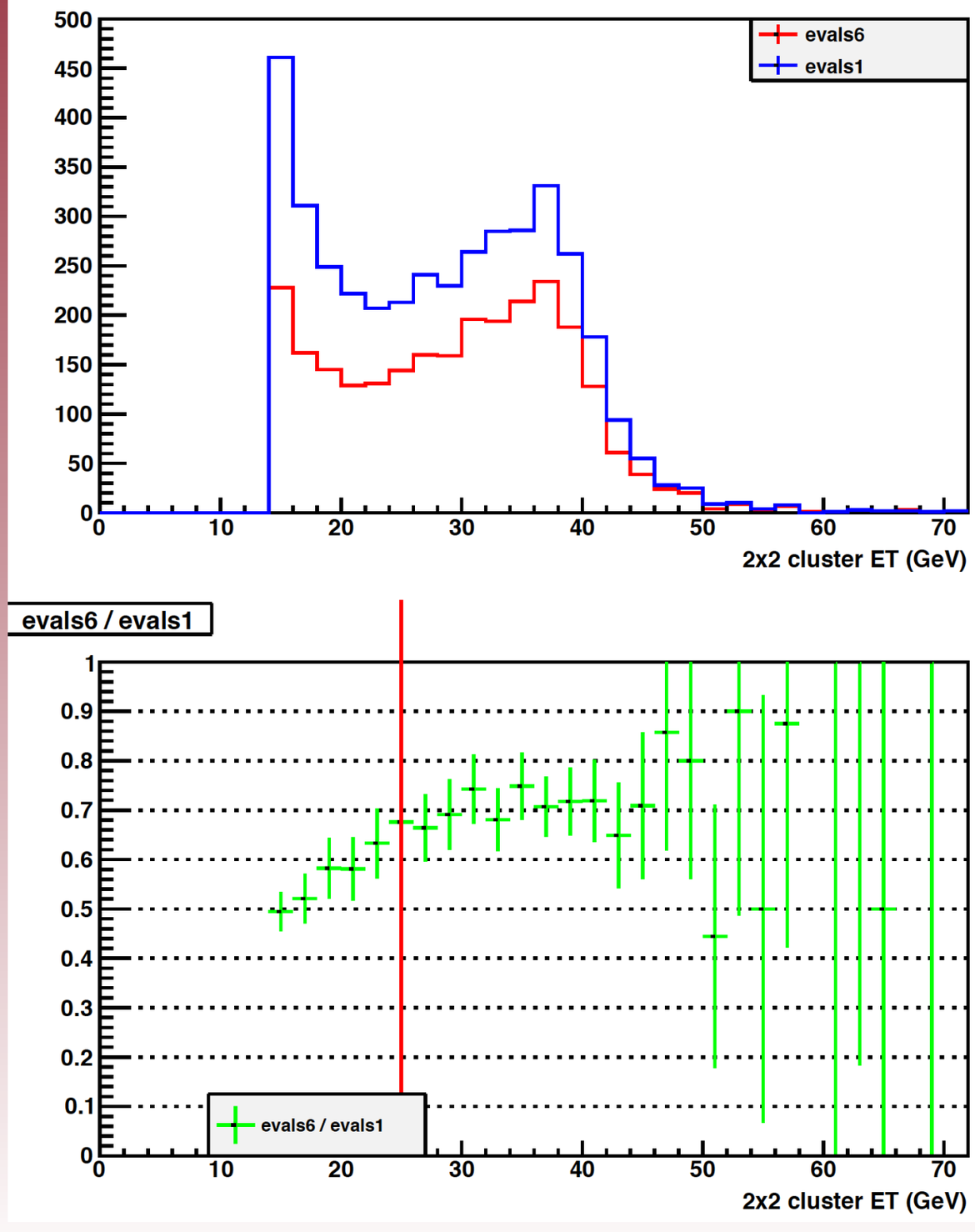
2x2 / nearCone



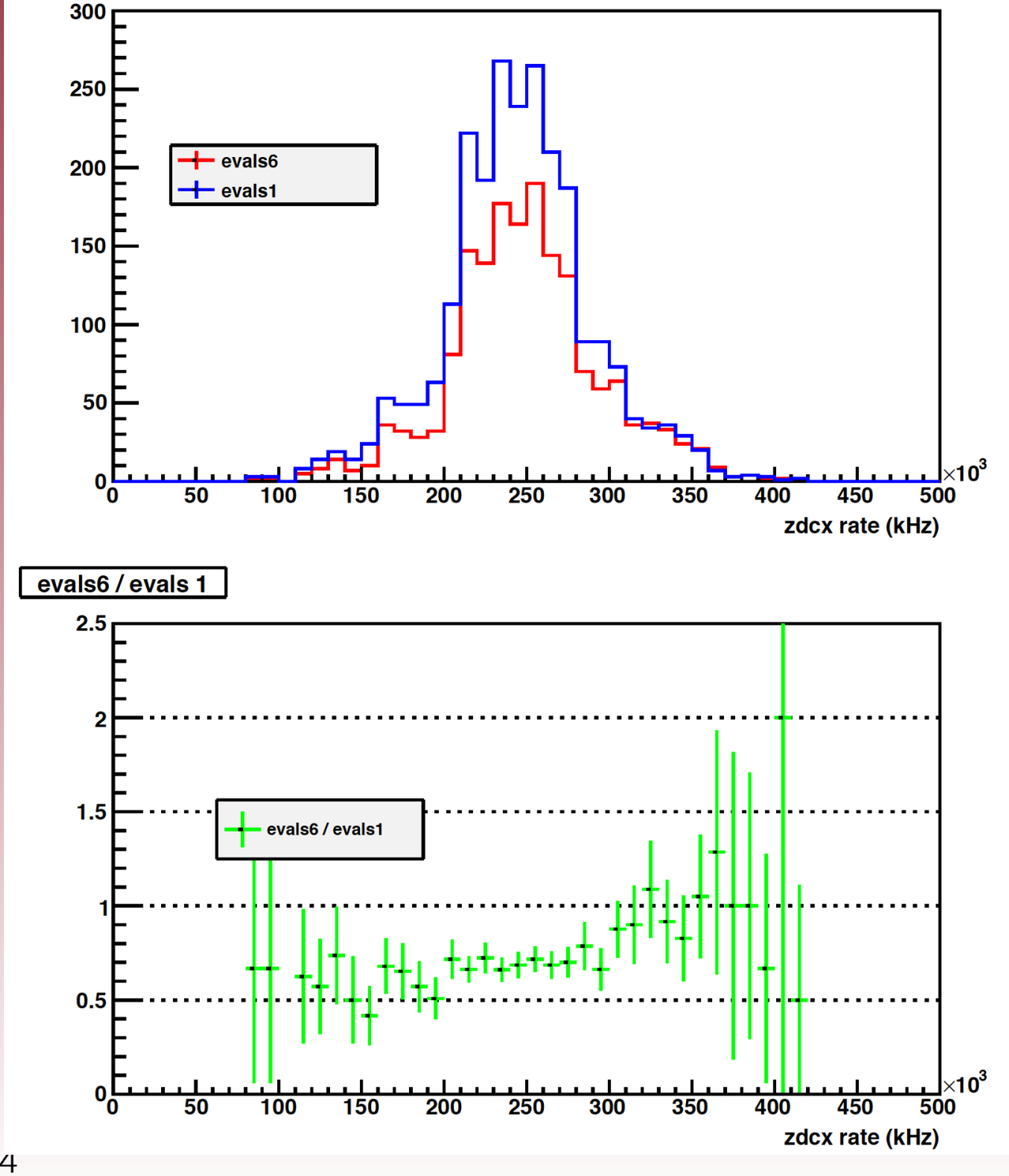


Final W : Et , ZDC

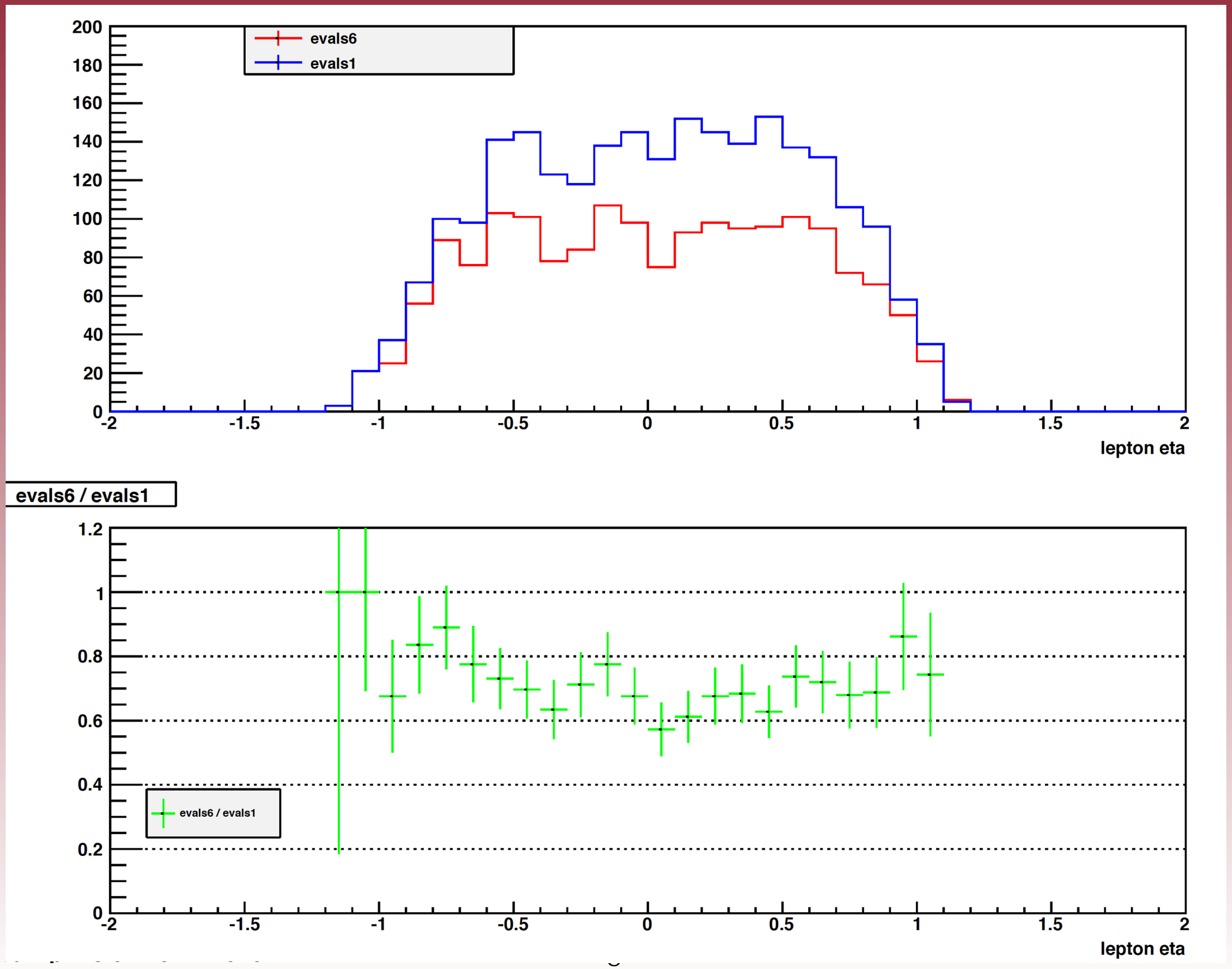
Final W - Et



Final W - ZDC



Final W Eta


evals6
evals1
200
180
160
140
120
100
80
60
40
20
0
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
lepton eta
evals6 / evals1
1.2
1
0.8
0.6
0.4
0.2
0
evals6 / evals1
lepton eta

Summary

- We see ~16% enhancement of tracks above Pt > 10 GeV which shows similar trends as STICA.
- But W candidate tracks drops at W isolation cuts [2x2 / nearCone]
- It seems hits reuse for tracks in STI deteriorate final W tracks.
- We see ~ 30 % less final W than Evals 1. Same can compare to Evals 2.