

Pixel-only vertex efficiency: DVF vs. DA

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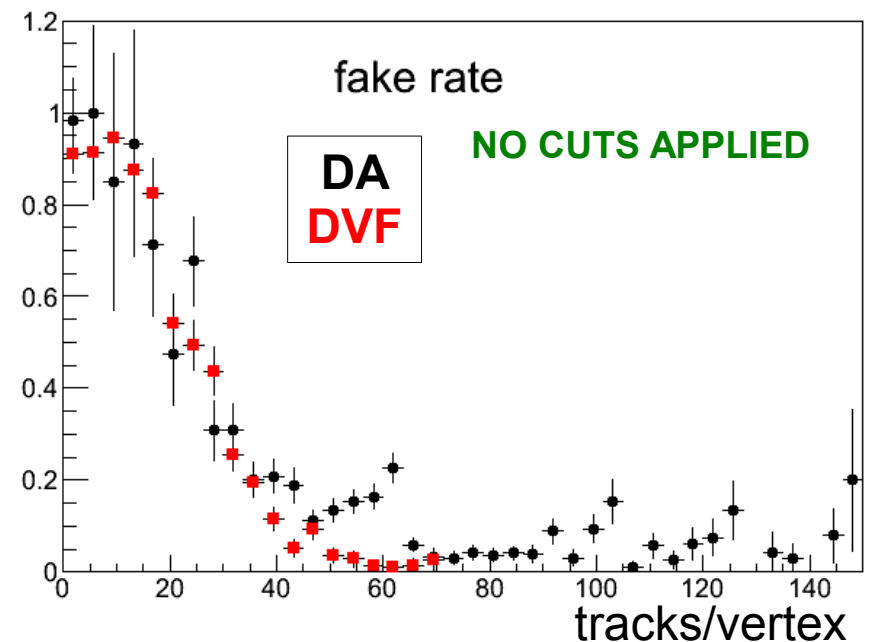
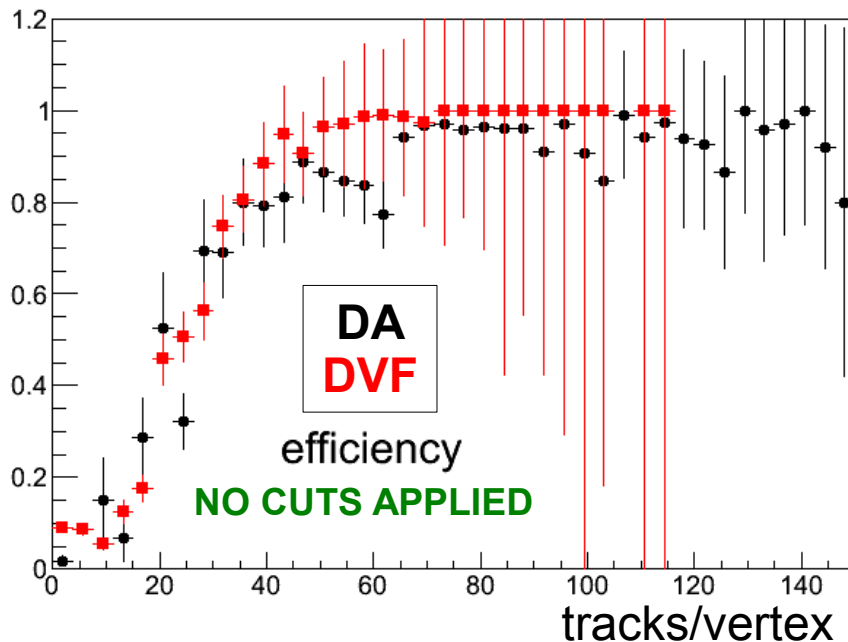
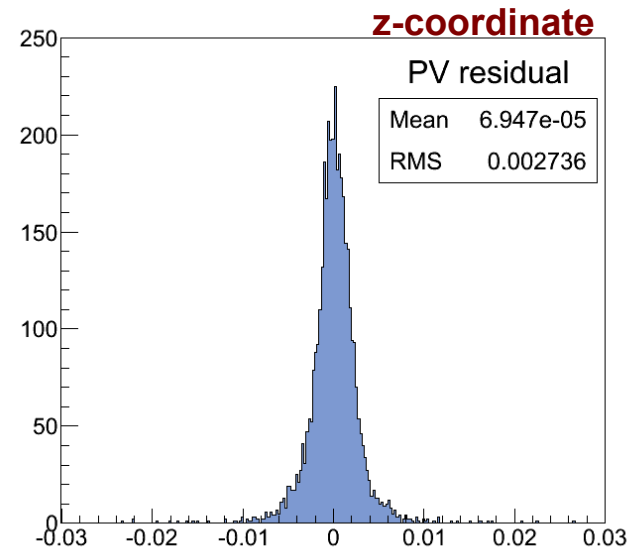
Vertex efficiency / fakerate (Phase 1)

- 5k events ttbar, PU50, phase1, 423_SLHC2
- 1 pixel-only reco PV per event as chosen by the B-tagger (highest p_T sum)
- MC truth (b-quark origin)

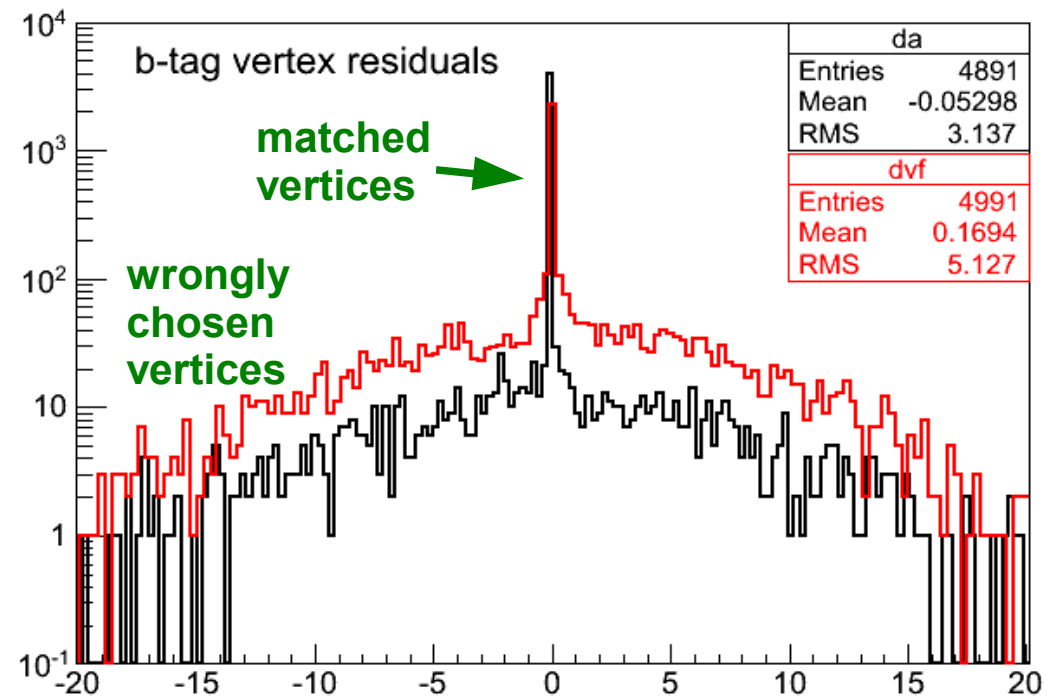
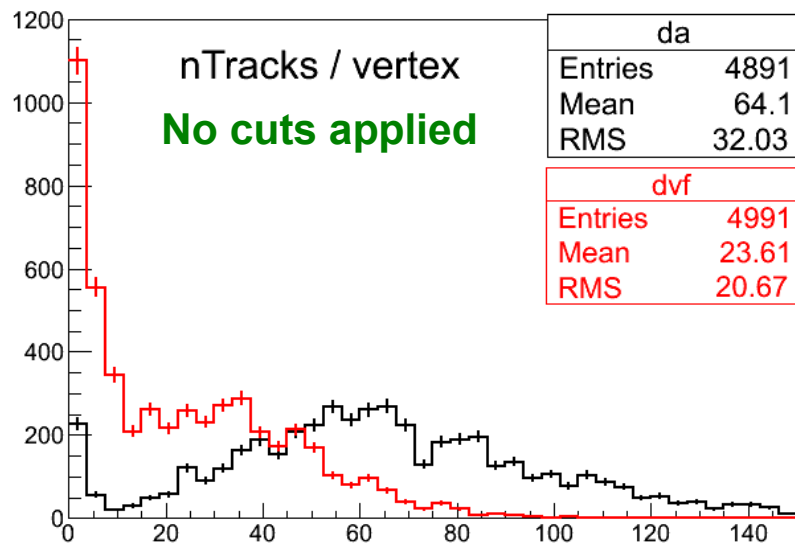
Efficiency: providing the correct hard interaction vertex to the b-tagger (with pileup):

matched PV (z-residual < 200 μm)

all events with ≥ 1 PV



Vertex efficiency / fakerate (Phase 1)



- Number of tracks/vertex is higher for the DA algorithm
→ better efficiency / lower fake rate
- No influence on pixel-only b-tagging performance
- But might improve the all-silicon tracking (pixel vertices are used in initial steps)