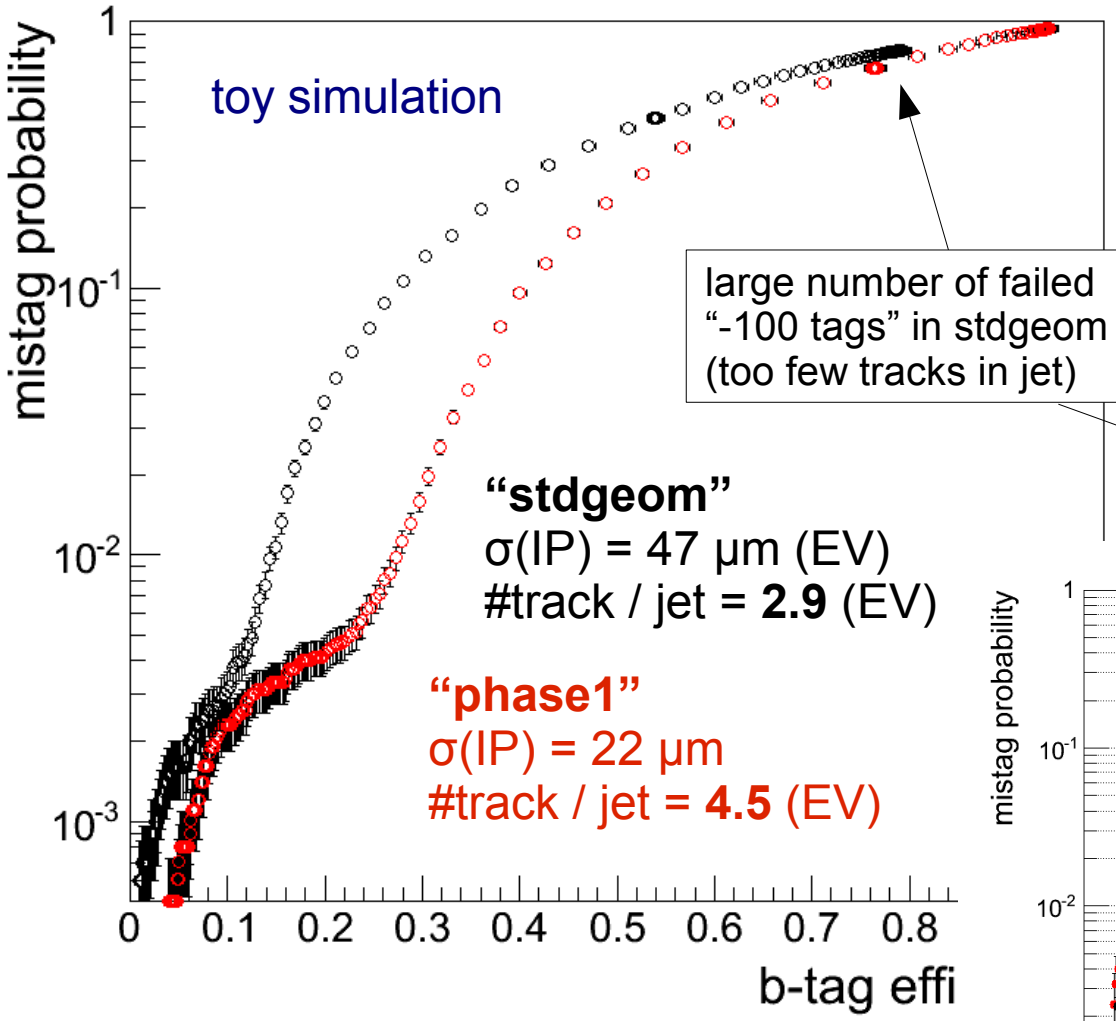
Simple toy simulation: pixel-only "tracks"



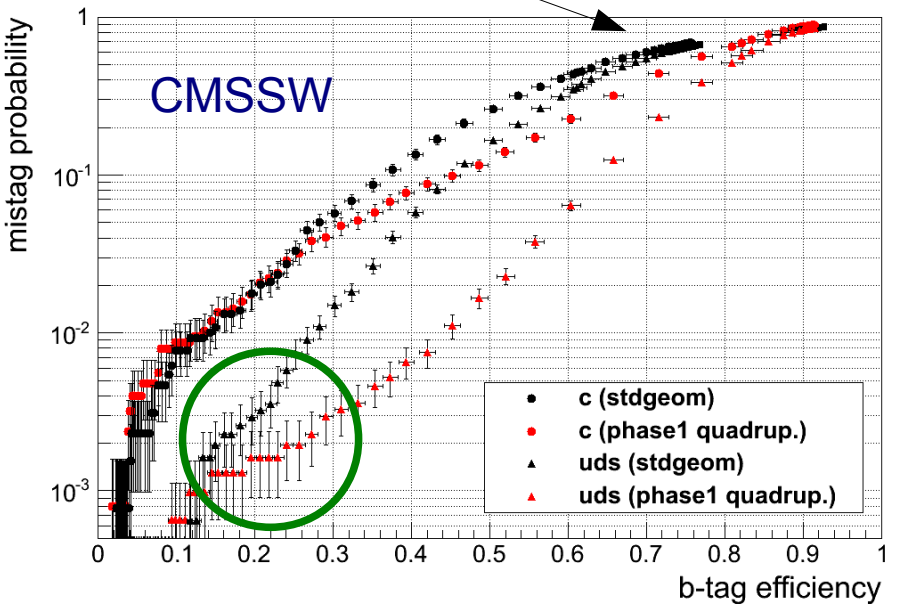
large number of failed "-100 tags" in stdgeom (too few tracks in jet)

"stdgeom"
σ(IP) = 47 μm (EV)
#track / jet = **2.9** (EV)

"phase1"
σ(IP) = 22 μm
#track / jet = **4.5** (EV)

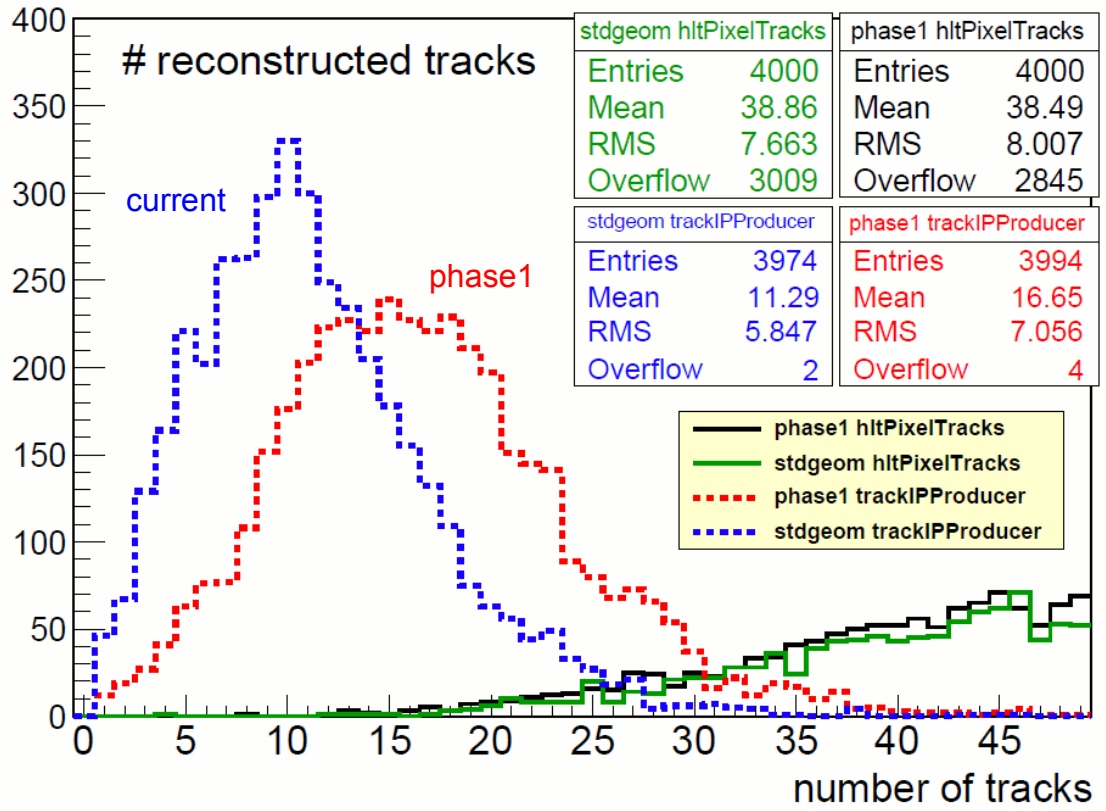
Crucial point is the higher efficiency due to the increased number of tracks per jet (higher track eff.)

Impact of better IP accuracy is rather small



Pixel-only track properties (HLT step2.5)

current:	**all hltPixelTracks**	**selected by TrackIPProducer for btag**
phase1:	**all hltPixelTracks**	**selected by TrackIPProducer for btag**



- approx. same number of total hltPixelTracks for current & phase1 (compare **black** ↔ **green**)
- TrackIPProducer selection cuts reduce track subset for b-tagging
- finally, higher track multiplicity for quadruplets (compare **red** ↔ **blue**) mostly χ^2 cut → lower fake rate!

→ crucial point, because the trackCounting tagger is very sensitive to the multiplicity! (see later..)