

Update on tagger tracking

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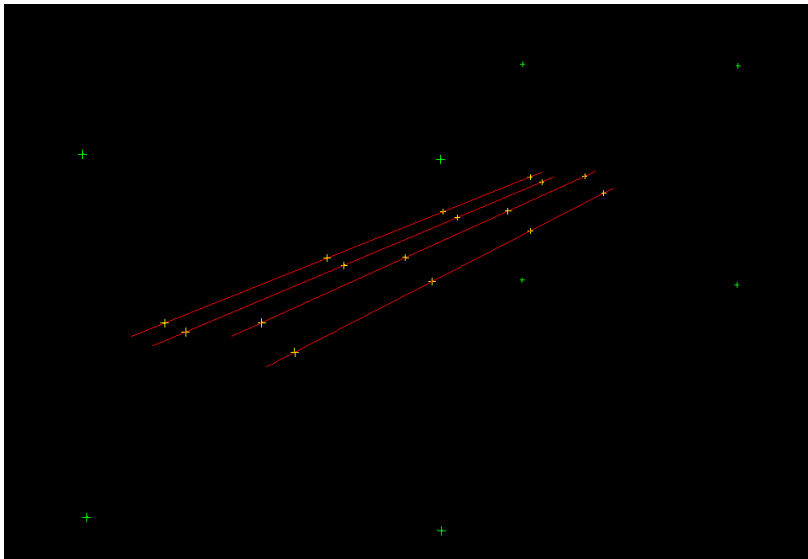
October 20, 2022

Far-backward meeting

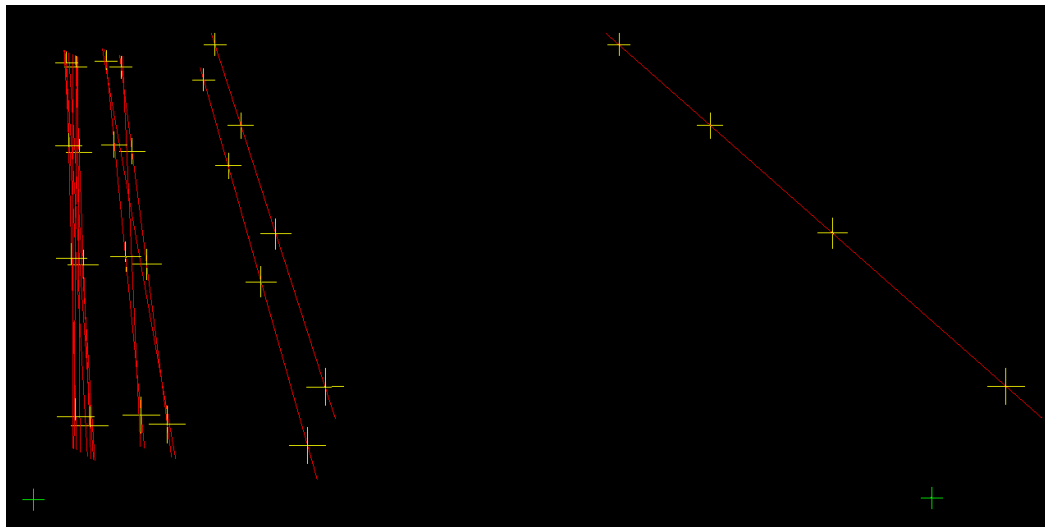
Introduction

- Some events have number of tracks much larger than expected from bremsstrahlung multiplicity in a given bunch crossing
- Expectation was that the extra tracks in more possible combinations of clusters which are close to each other
- Event display showing cluster position in 4 tagger layers and reconstructed tracks proves the combinatorial origin (next pages)

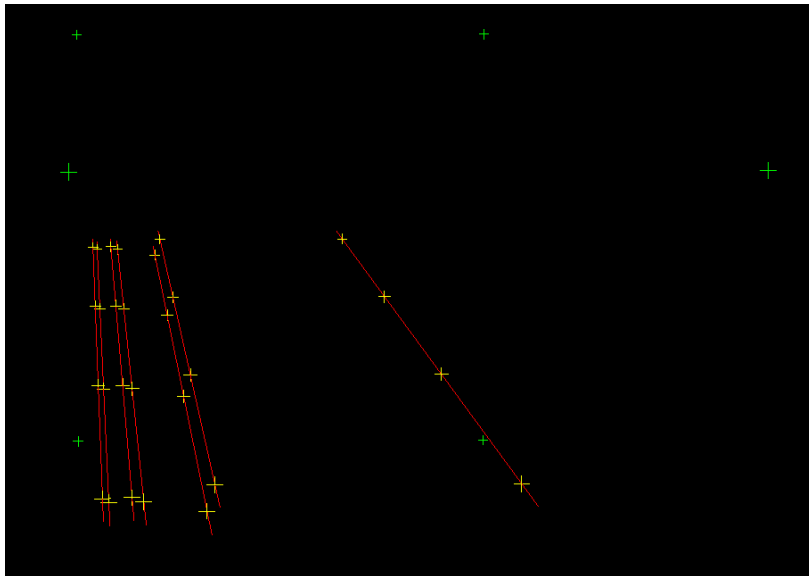
Event with 16 clusters (4 per layer) and 4 tracks, no problem



Another event having extra tracks on close-spaced clusters, maximal χ^2/ndf is 0.5



Same event, maximal χ^2/ndf reduced to 0.15, no extra tracks



Mitigation possibilities

- Low limit on reduced χ^2 (the χ^2/ndf is below 0.12 for most of photoproduction electrons alone)
- Rejection of events with large cluster density (if there is not so much of them where small χ^2/ndf would not help)