



HIGGS SELF-COUPPLING ANALYSIS WITH $H \rightarrow WW^*$

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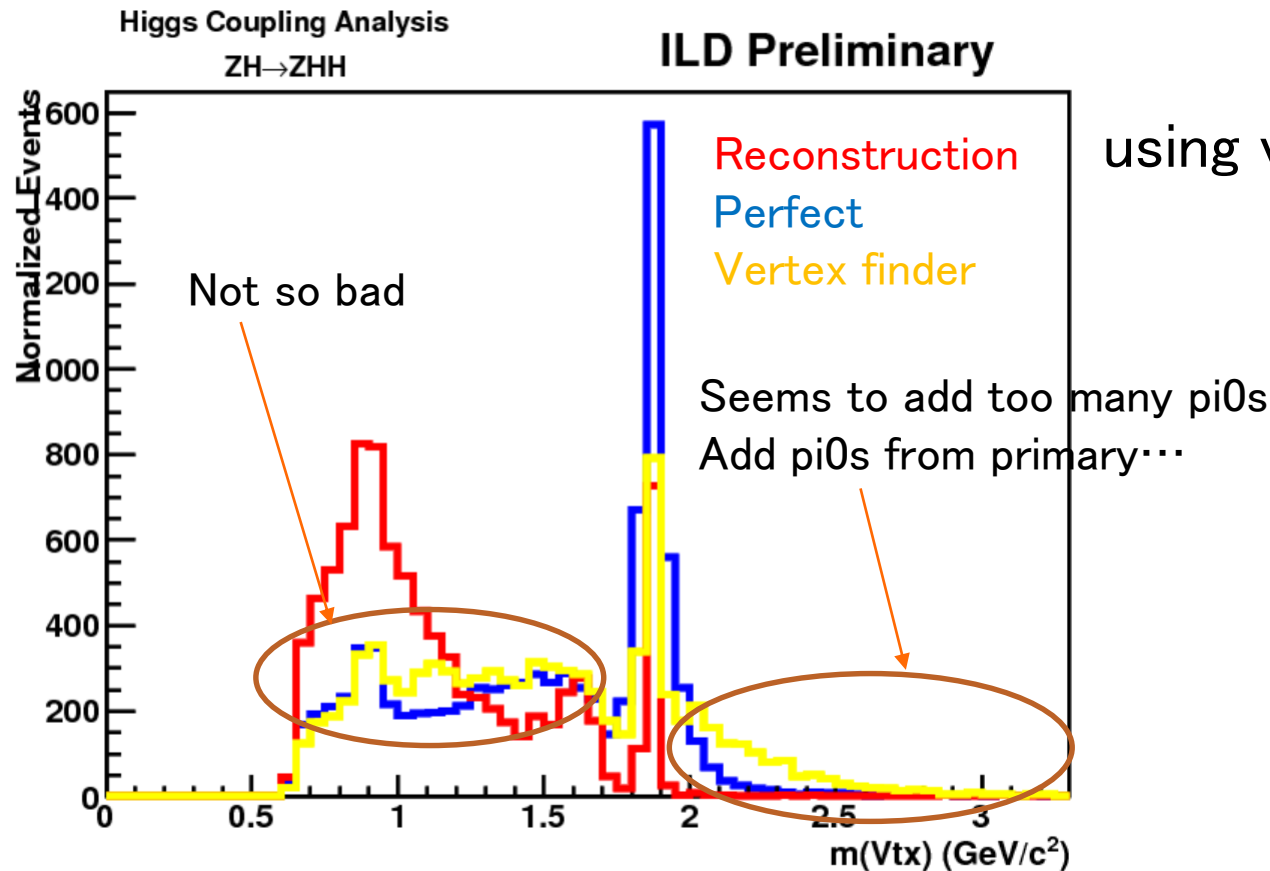
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STATUS

- For flavor tagging improvement
 - Check the possibility of attaching π^0 s to (secondary, thirdary) vertex
- Building π^0 finder – many components are necessary
 - Gamma finder – using shower profile in calorimeters
 - π^0 finder – solving gamma pairing
 - Vertex finder – which vertex is the π^0 coming?
- Problems so far
 - Gamma pairing is bad – when gammas are located in small area
 - Does vertex finding work well?
- Today, can't show the detail because no time to make slides...
 - Just show summary

VERTEX FINDING

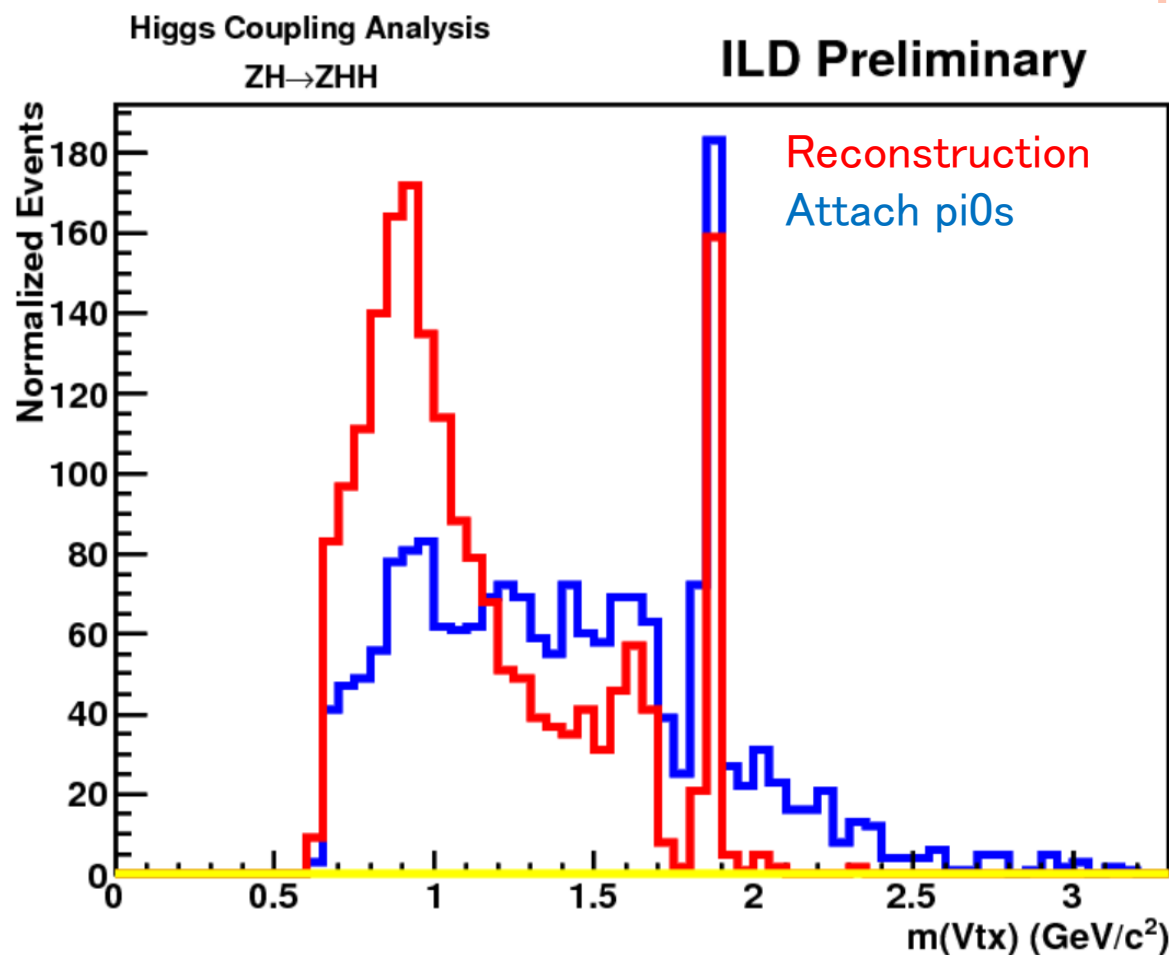
- Testing the vertex finding of π^0
- The case when gamma pairing is perfect within reconstructed gammas
- Forming vertex finding MVA and choose π^0 s according to the MVA
- Comparing reco, perfect match, and vertex finding



using vertex with $K + \pi$

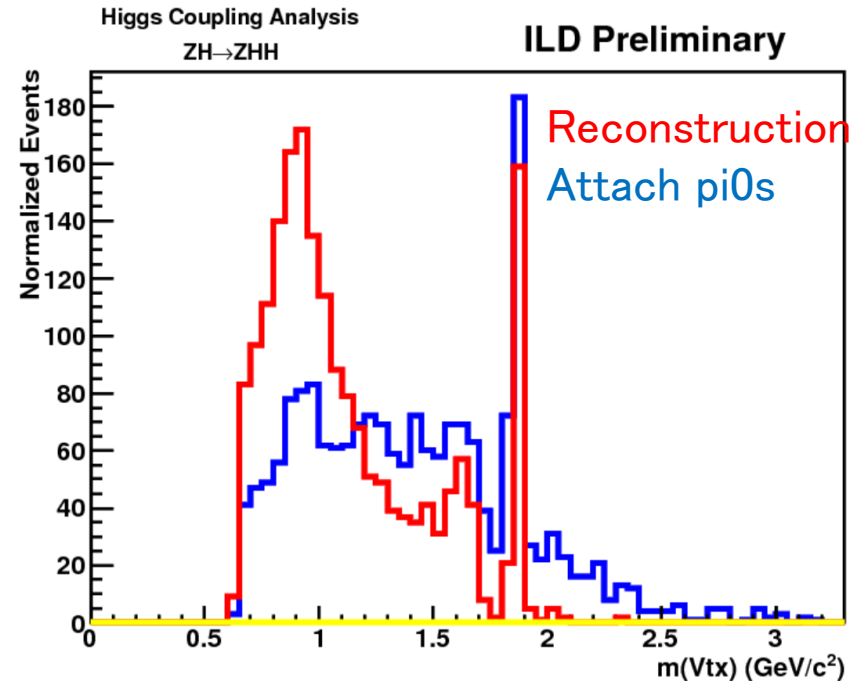
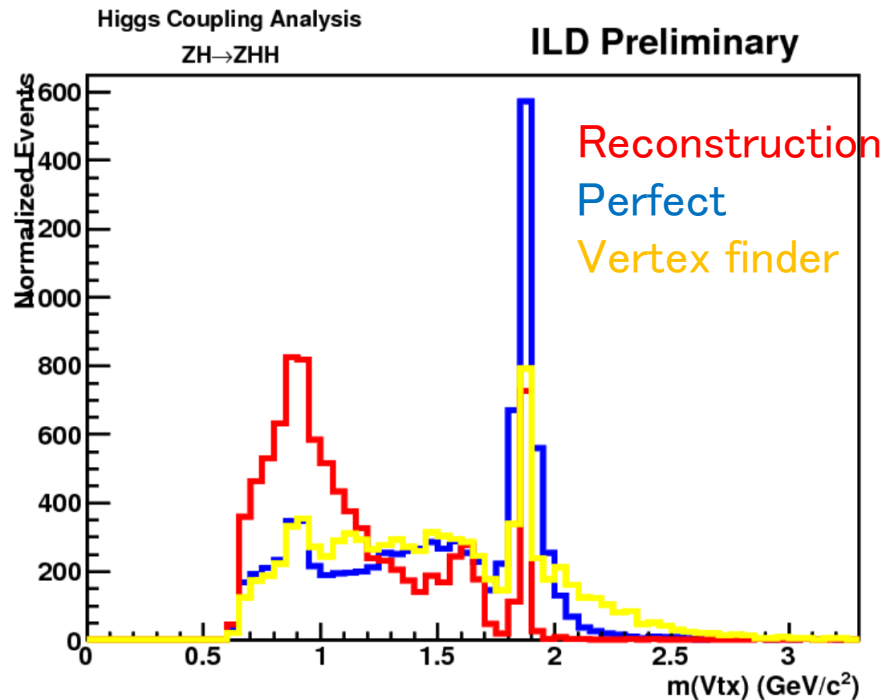
TRYING TO ATTACH π^0 S

- Using gamma finder, π^0 finder and vertex finder to choose π^0 s from vertex
 - Effect is small... – choosing π^0 s from primary...
 - Pairing is bad when gammas are located in small area



BUT

- Yellow in left and blue in right have same tendency
→key is the vertex finding??



TODO

- Continue to check
- Checking vertex charge on vertex with each particle type