

A first glance at tau double bang events

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April 20, 2015

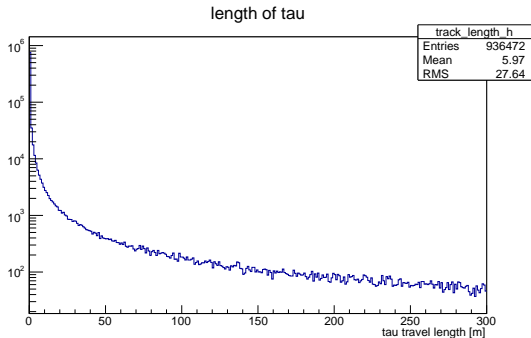


Tau neutrinos produce 3 distinct decay patterns:

- NC: One shower
- CC: produced tau decays into muon ($\approx 35\%$)
- CC: produced tau decays into hadronic shower ($\approx 65\%$)

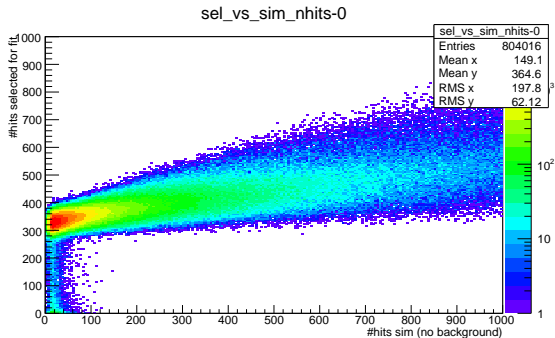
A first glance at CC-shower events

Split files according to tau travel length at 3m (≈ 100 TeV)



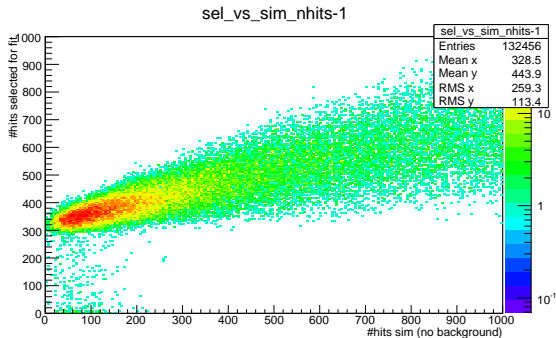
Hit selection

Simulated hits (no K40) vs selected hits for $\tau_{\text{len}} \leq 3$ m



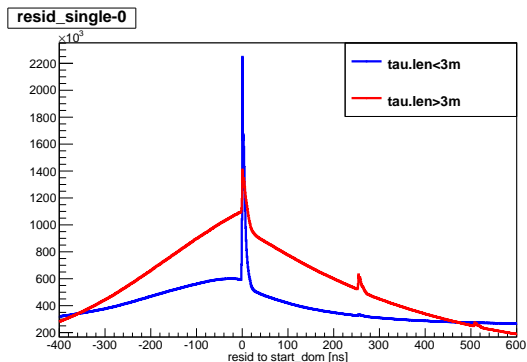
Hit selection

Simulated hits (no K40) vs selected hits for $\tau.\text{len} > 3\text{ m}$



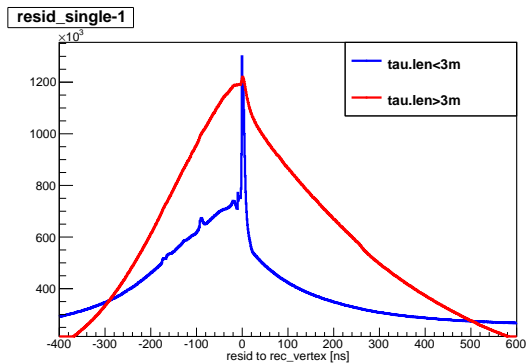
Hit residuals

Residuals of all simulated hits with respect to highest multiplicity DOM



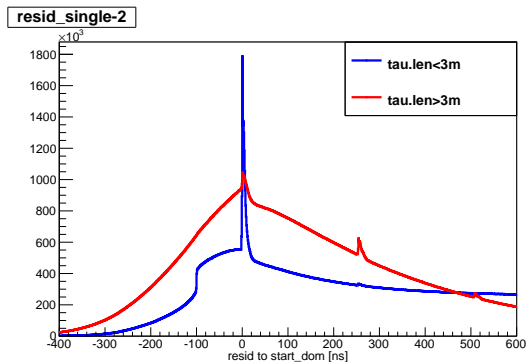
Hit residuals

Residuals of all simulated hits with respect to reco vertex



Hit residuals

Residuals of all selected hits with respect to highest multiplicity DOM (just cut on residual)



Hit residuals

Residuals of all selected hits with respect to reco vertex (just cut on residual)

