Presentation

T->SetAlias("P3","sqrt(na.tr.px*na.tr.px+na.tr.py*na.tr.py+na.tr.pz*na.tr.pz") T->SetAlias("NhMatch","(na.tr.px/P3-EK.q_x/EK.q3m)") T->SetAlias("PhMatch", "abs(NhMatch)<.05") T->SetAlias("PvMatch", "abs(na.tr.pv/P3-.9*ÉK.q v/EK.q3m)<.05") T->SetAlias("StDCut","abs(sqrt(EK.W2)-.95)<.05&&abs(B.tr.p[0]-1.1)<.2 &&abs(na.nd.clus tof+.05*D.ctimeL1A[0]-265)<10") T->SetAlias("V2Draw", "na.nd.v2.hit tof[na.nd.clus v2hit]+.05*D.ctimeL1A[0]") T->SetAlias("V1Draw", "na.nd.v1.hit_tof[na.nd.clus_v1hit]+.05*D.ctimeL1A[0]") T->SetAlias("V1Cut","na.nd.clus_v1hit>=0") T->SetAlias("V2Cut","na.nd.clus_v2hit>=0") T->SetAlias("CoicCut","V1Cut&&V2Cut") TString bcv1 = Form([']na.nd.clus_v1bar==%d",i) TString bcv2 = Form("na.nd.clus_v2bar==%d",i) T->Draw("V1Draw>>v1p","PvMatch&&PhMatch&&V1Cut&&StDCut&&"+bcv1) T->Draw("V2Draw>>v2p","PvMatch&&PhMatch&&V2Cut&&StDCut&&"+bcv2) T->Draw("V2Draw>>cp","PvMatch&&PhMatch&&CoicCut&&StDCut&&"+bcv2) TH1F* v1p = new TH1F("v1p","Peak Spectrum for V1 hits",130,200,330) TH1F* v2p = new TH1F("v3p","Peak Spectrum for V2 hits",130,200,330) TH1F* cp = new TH1F("cp","Peak Spectrum for V2 hits in Coic",130,200,330)





The missing areas are from a mismatch with the geometry between the Neutron Detectors and Veto Detectors. These are an expected detector position, not in actual detector that fired (for Veto).

Something new I am testing is a broader range (in x position) basis. I wouldn't expect this to be completely necessary, as the efficiencies for a whole plane I would still put as ~96% based upon two neighbors for a hit. However, using a cut like: |V1Xpos - Cluster Xpos| < .4

I am able to get the following (in cluster x position):







These give mostly expected efficiencies. More study will be needed to determine whether dips or other such things are caused by the veto bars or by wholes or the efficiency calculation not being optimized yet. Additionally, here are some rough numbers:









Negative is has more events then the positive side (this coincides with expectations).