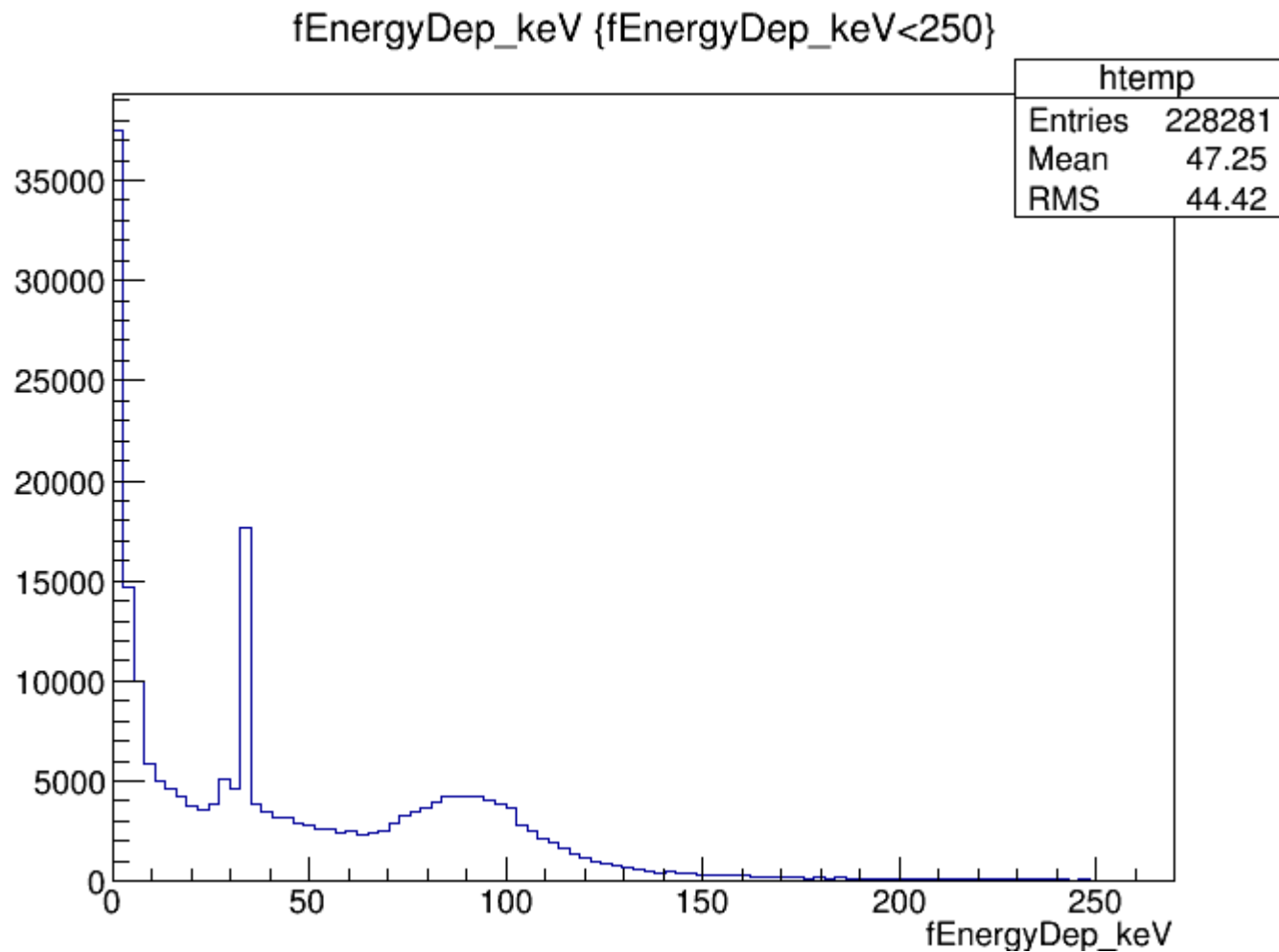


Update 4-4-2017

Shaun Alsum

Peaks in the energy deposition spectrum

- Imagine they come from decay after neutron capture.



Time-cut

- If the process takes too long, it won't be seen as part of the initial event.
- Create a time-cut in Geant4 that kills a track if it takes longer than a certain amount of time.

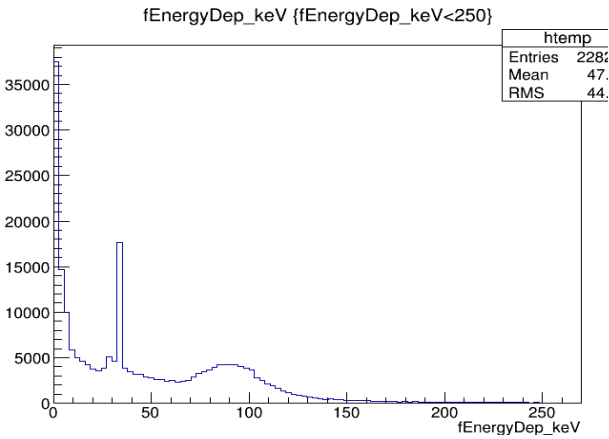
```
void LUXSimSteppingAction::UserSteppingAction( const G4Step* theStep )
{
    //      Initialize step specifics
    theTrack = theStep->GetTrack();

    if( luxManager->Get100keVHack() &&
        luxManager->GetLiquidXenonEnergy() > luxManager->Get100keVHack() )
        theTrack->SetTrackStatus( fStopAndKill );

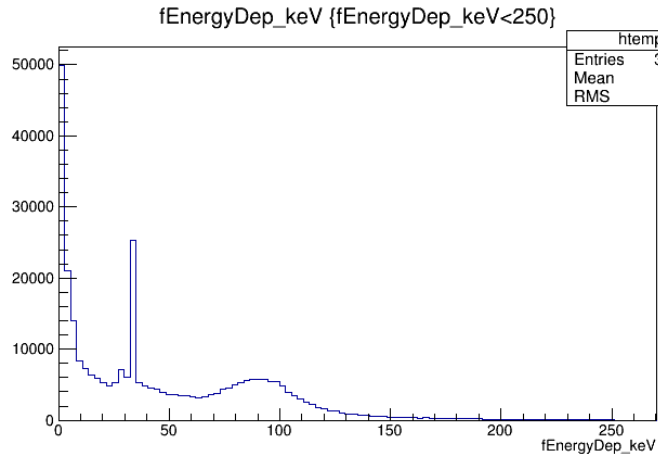
    else if( luxManager->GetKillTime() > -1 && luxManager->GetKillTime() < theTrack-
ack->GetLocalTime()){ // used to be Global time but that had weird behavior
        theTrack->SetTrackStatus( fStopAndKill);
    }
}
```

See what happens...

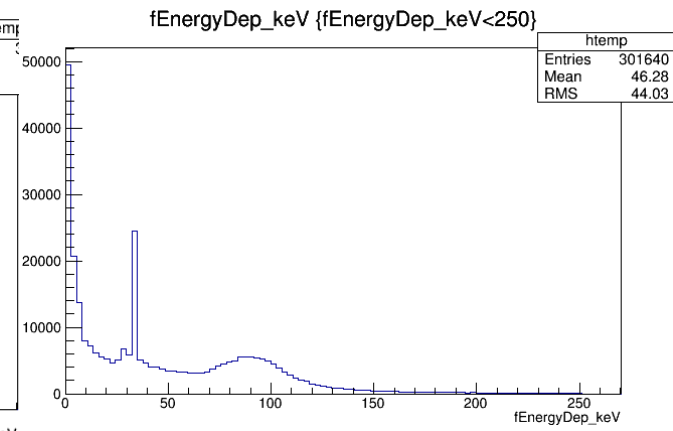
No Time-cut



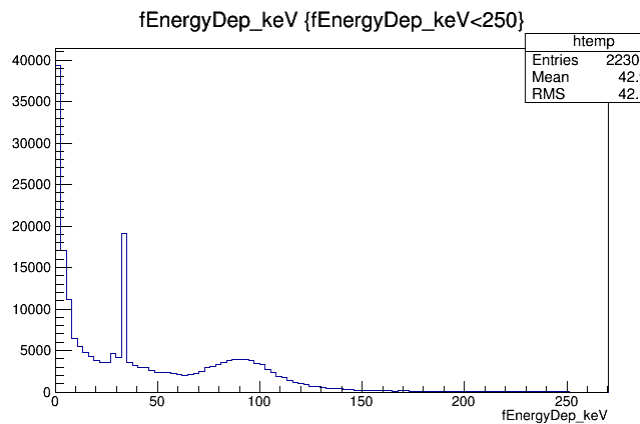
1 ms



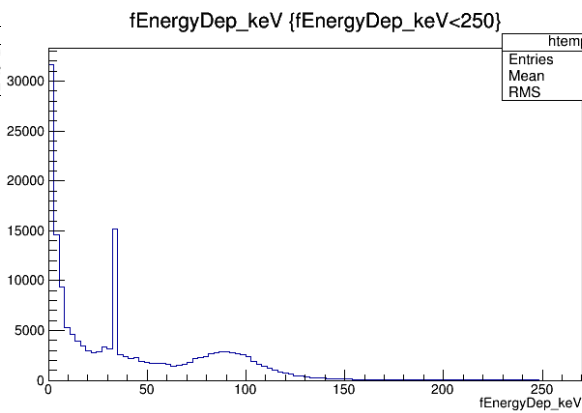
0.1 ms



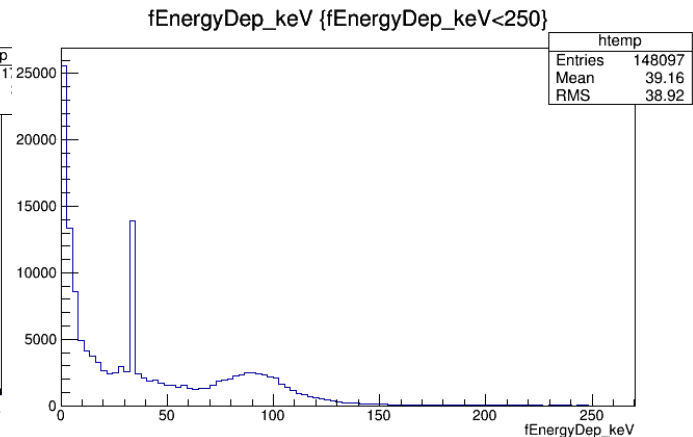
0.01 ms



0.001 ms



0.0001 ms



Pushing ahead anyway

- Got list of cuts for the data and beginning to implement those that apply...
 - http://teacher.pas.rochester.edu:8080/wiki/bin/view/Lux/Run4_frozen_page