

Progress Report

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- Low energy (2GeV) μ

An Improvement in the reconstruction as a result of the implementation of 1/ and 2/ is shown. In yellow are the reconstructed tracks in ECal and HCal.

1/ dL- path Length big

Taken care of

2/ dt not defined (e.g. $v_R=0$)

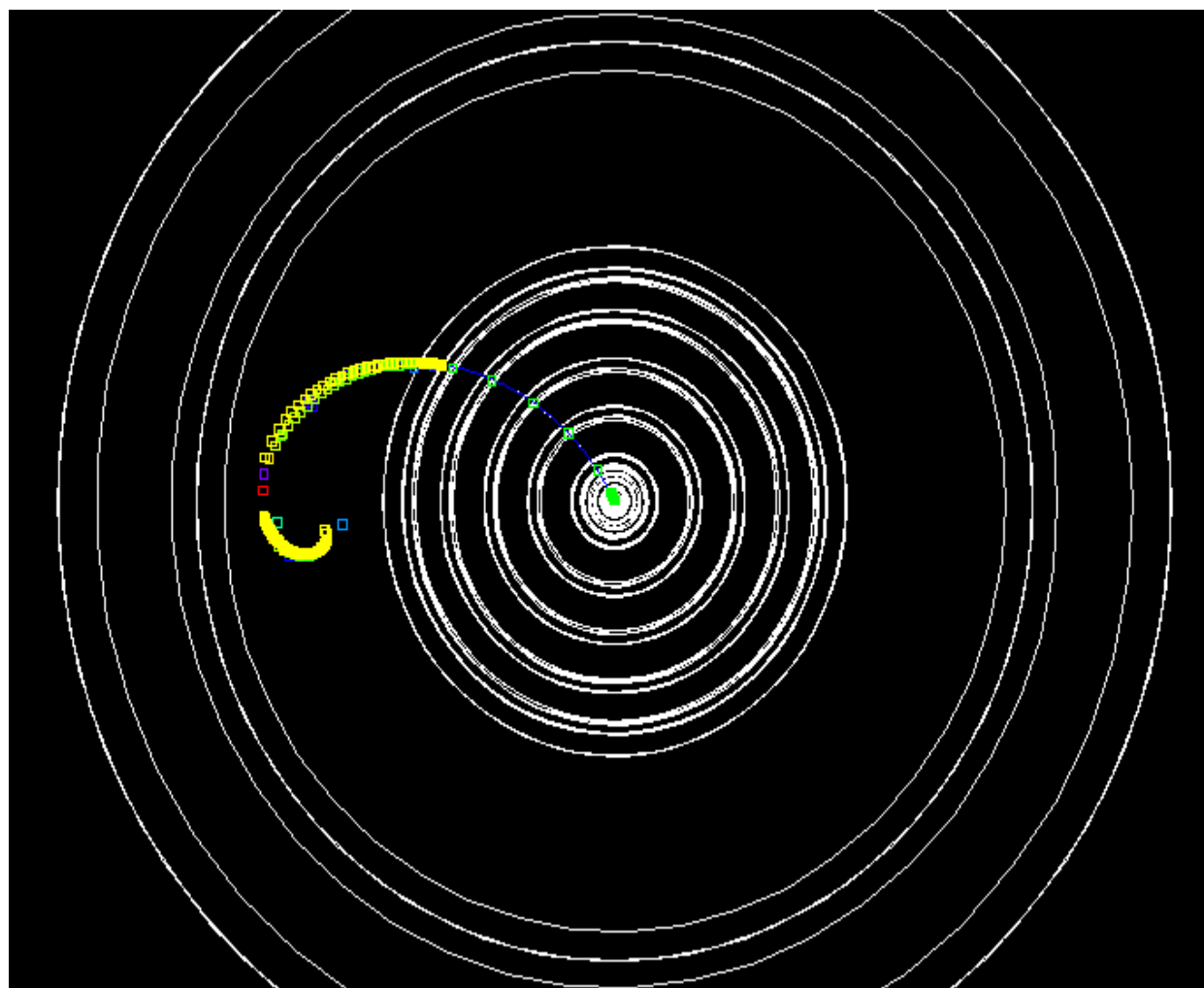
Taken care of

3/ dE/dx comparison- a mean dE/dx is used considering the *discrepancies below. A momentum dependant one will be implemented*

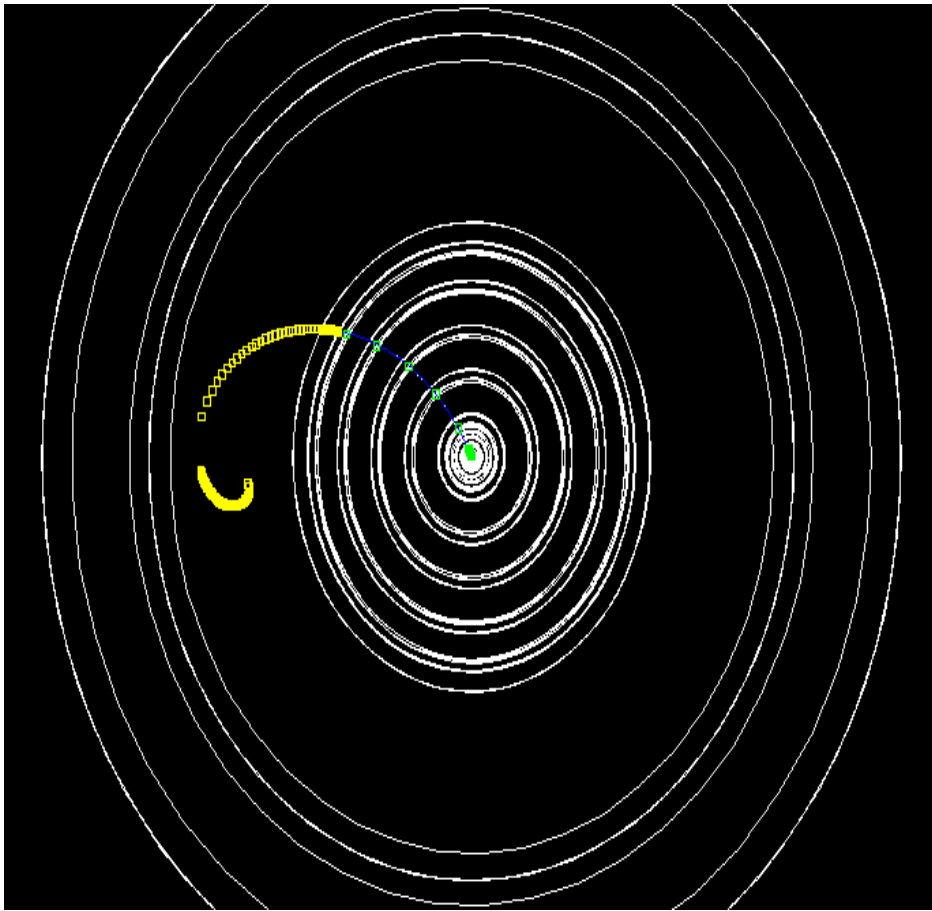
- Lcsim –Bethe-Bloch/Sternheimer
- Geant4-Ionization for muons & hadrons

G4Mulonization && G4Hlonization

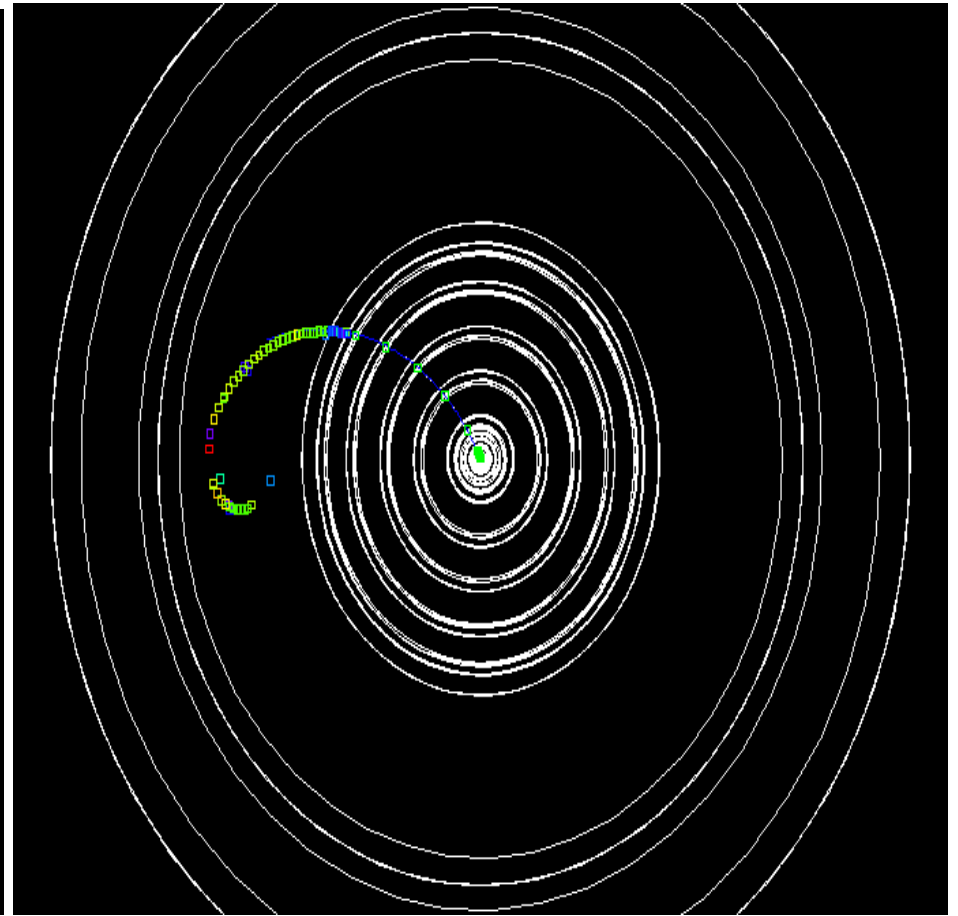
2GeV Muon- Event 2-Reconstructed Track
in ECal and HCal on top of the simulated Track



Reconstructed And Simulated -Details



Reconstructed-Yellow

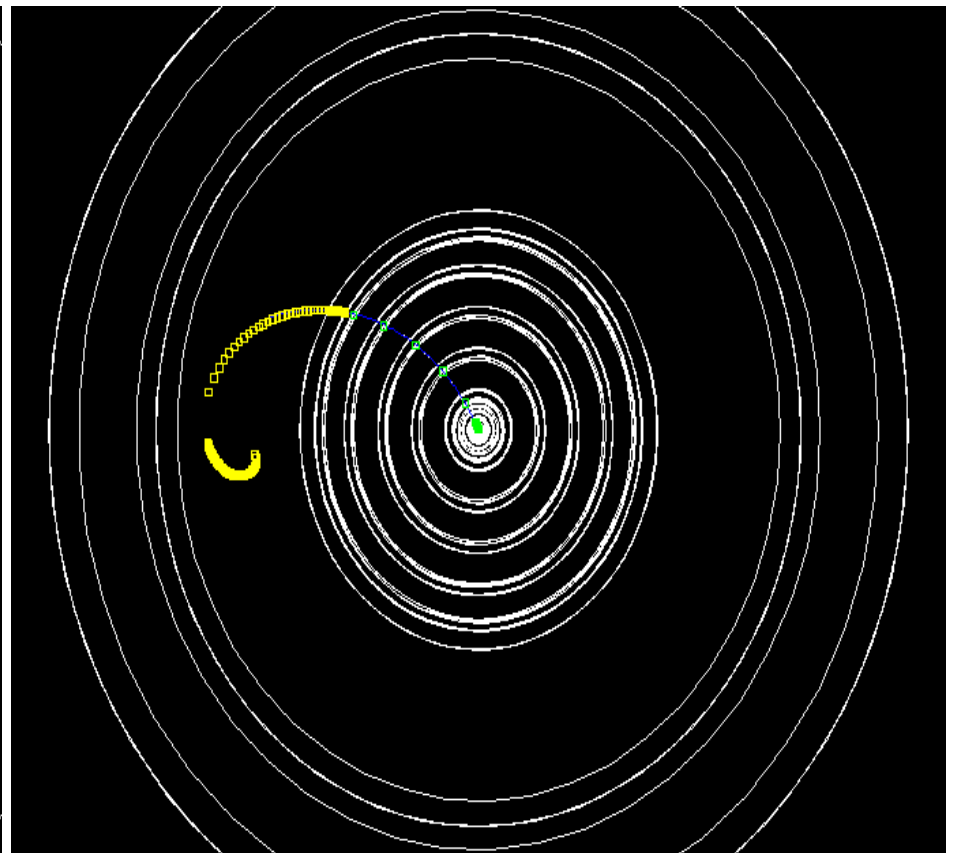
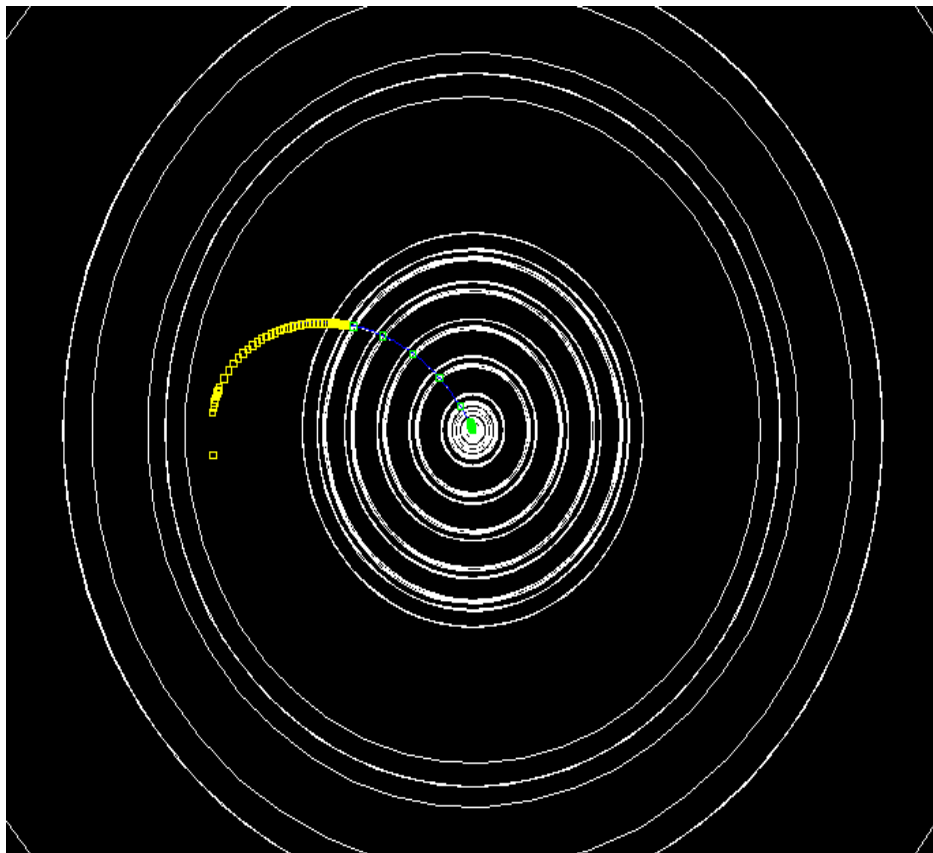


Simulated- Green and blue

Event Reconstructed Before and Now

Before

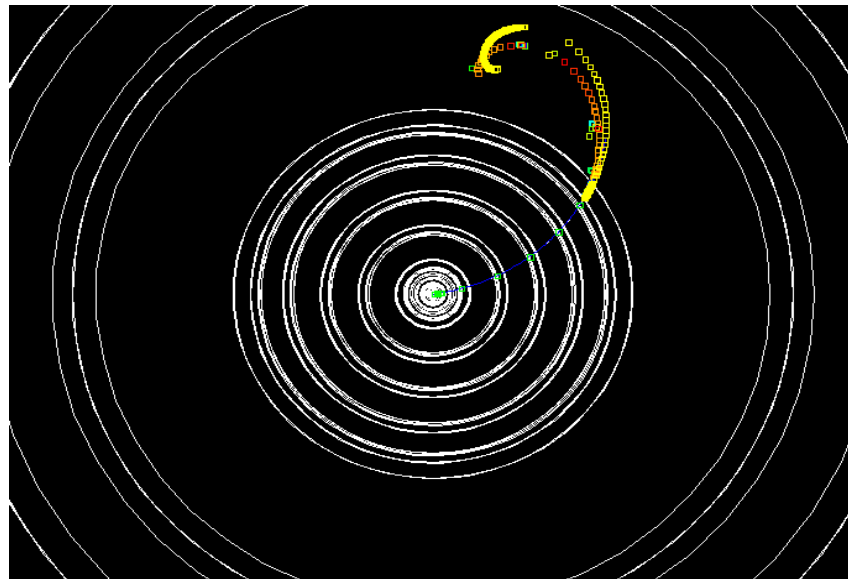
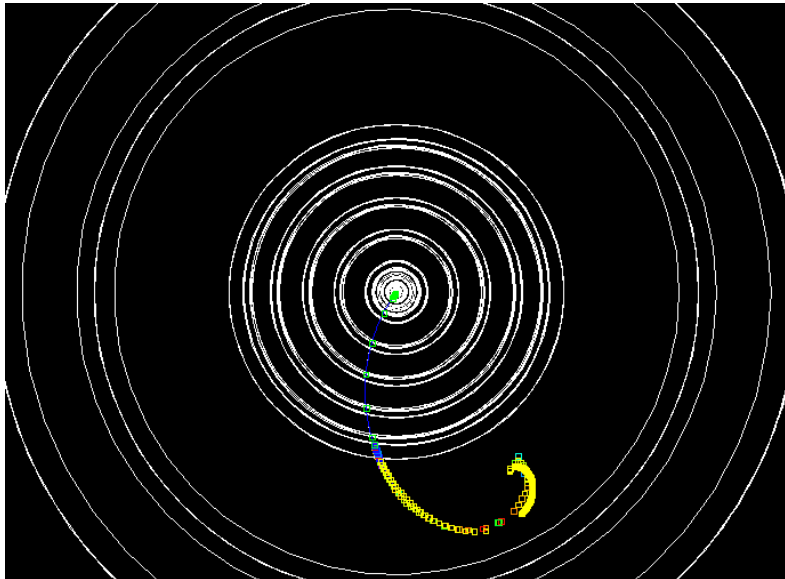
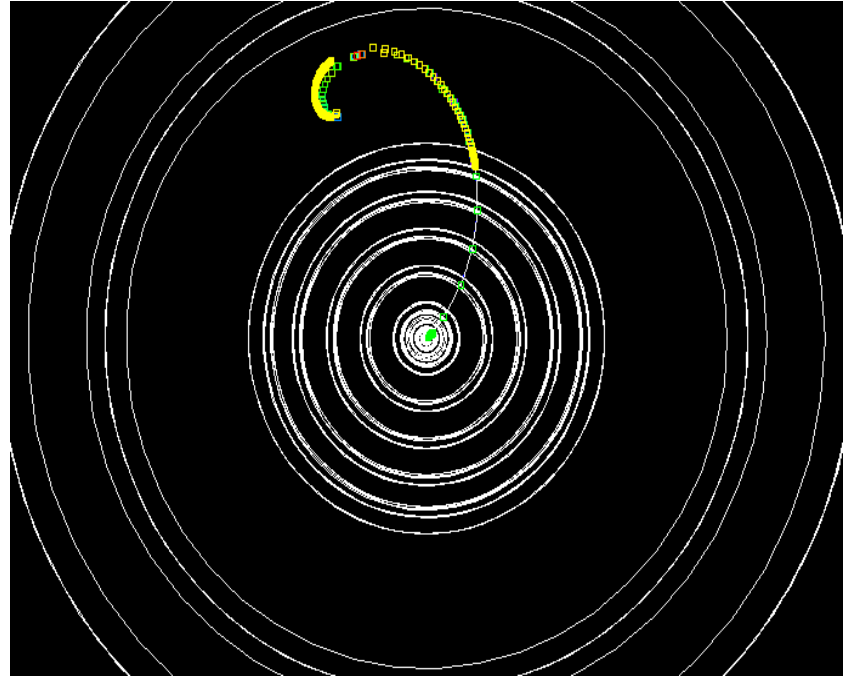
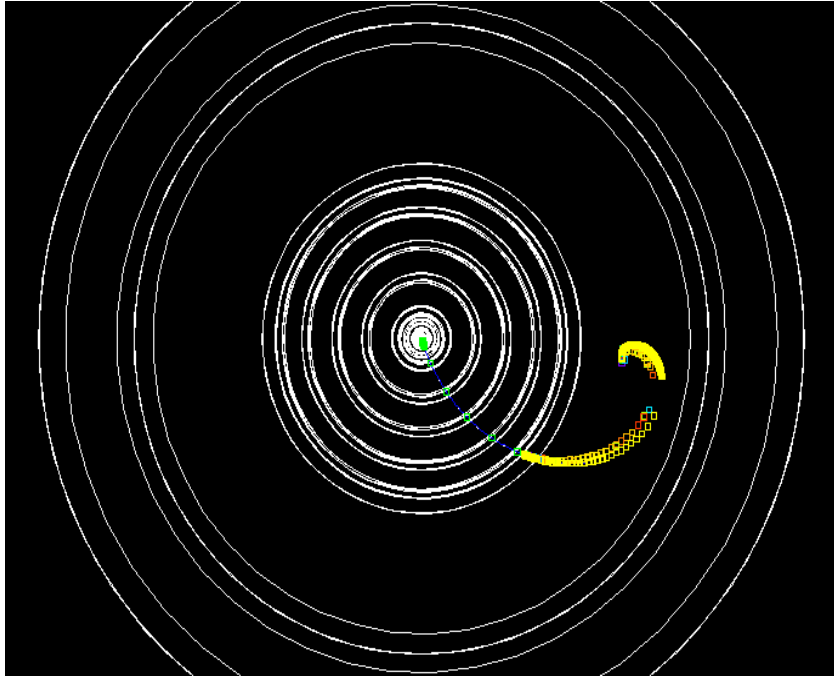
Now



Room for progress

- Next slide shows 4 Muon 2 GeV events where the reconstructed tracks in ECal and HCal are shown in yellow.
- We are dealing with low energy muons which are not reaching MUDet
- In HCal, there is still room for improvement mostly at the end of the trajectory

4 events of 2 GeV Muons- Reconstruction in Yellow-



Next to be Done

- The 2 GeV Muons with a discrepancy between the reconstructed track and the simulated one will be used to 'fish' for bugs
- Other Energy points will be tried with Muons
- Improvement of code 'esthetics' and committing to CVS.
- Single Pions and Kaons studies
- B-bbar jets studies.
- The code will be implemented with the momentum dependant dE/dx

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