

# Group meeting

November-22

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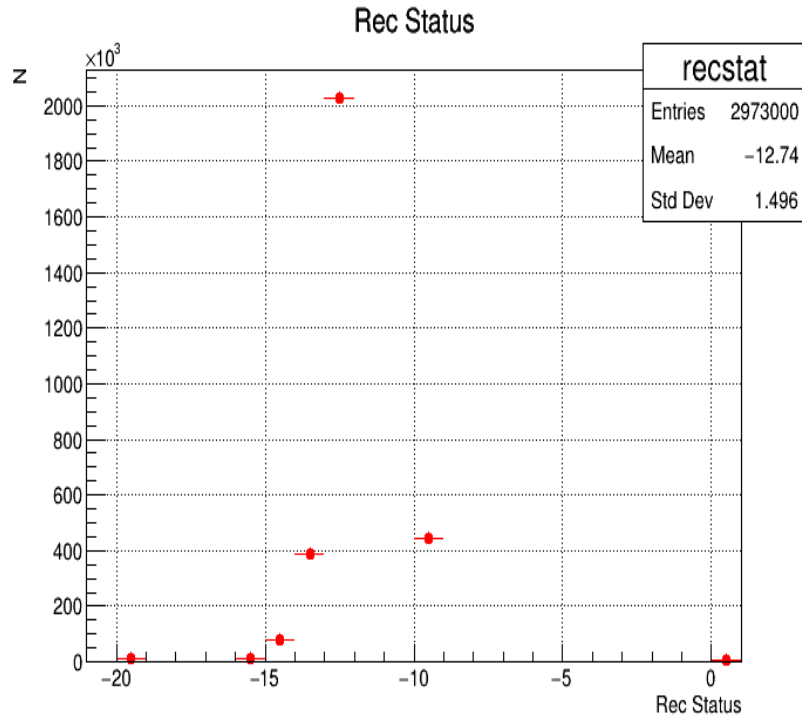
# Outline

- Software/Analysis
- Hardware/Commissioning Preparation

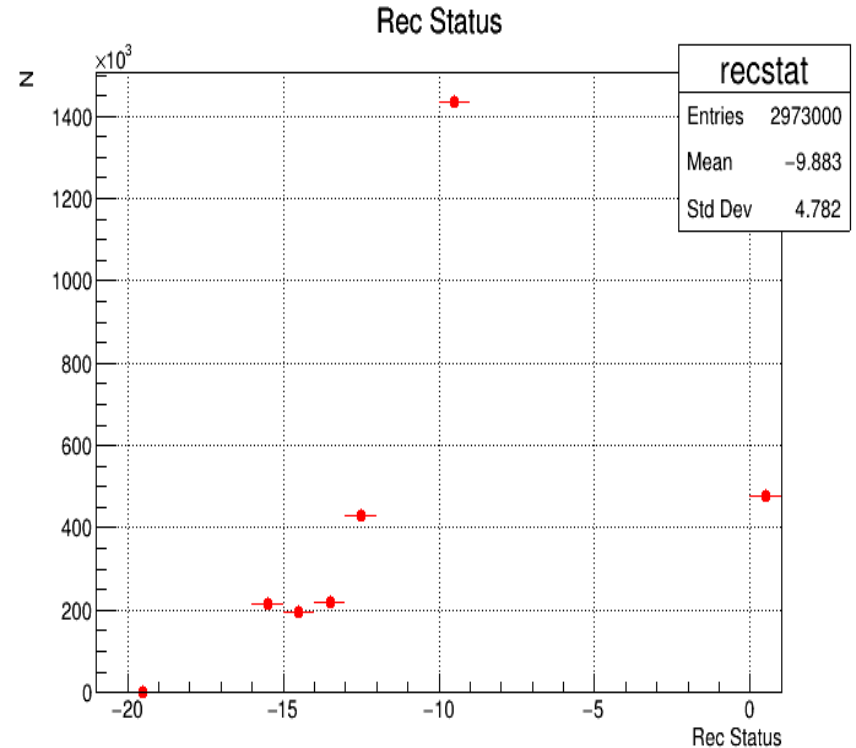
Working on E1039 Tracking -> Presented on last analysis meeting

<https://sequest-docdb.fnal.gov/cgi-bin/private/ShowDocument?docid=7041>

## The reconstruction status before and after vertex optimization (DY MC)



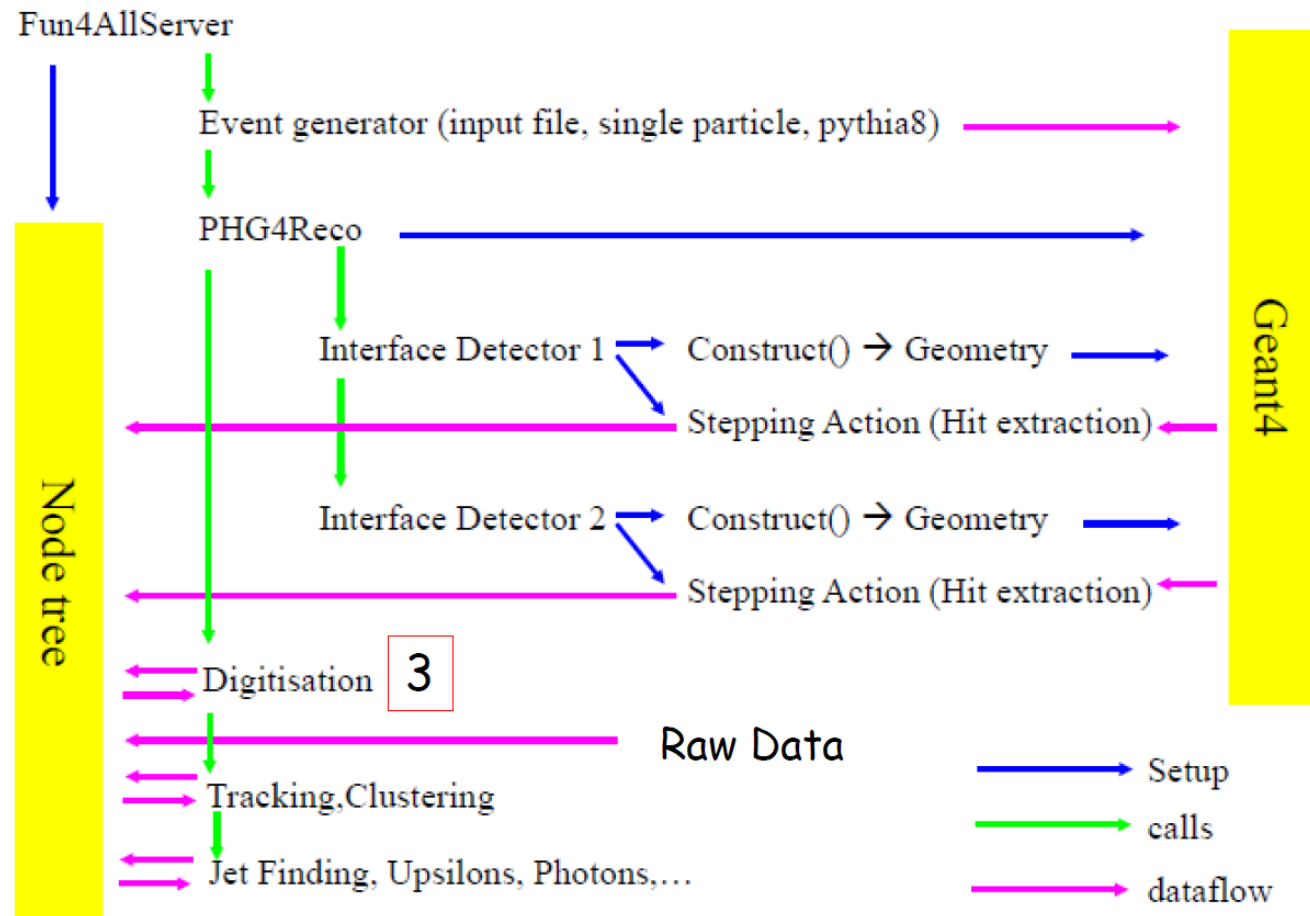
Without Vertex  
Optimization  
Success Rate: 0.27%  
(Close to Kenichi's  
result which is 0.1% for  
J/Psi)



With Vertex  
Optimization  
Success Rate: 16%  
Big Improvement!!

Published a detailed step and code implementation for E1039 Simulation in DocDB: <https://sequest-docdb.fnal.gov/cgi-bin/private/ShowDocument?docid=6974>

## General Fun4All Simulation Flow



# Feedback & Outlook

- More people involved: Astrid, MingJun

- Focus on the error and covariance matrix:

`covar[0][0] = err_invP*err_invP; -> tracklet.err_invP = .25*tracklet.invP`

`covar[1][1] = tx_err*tx_err;`

`covar[2][2] = err_ty*err_ty;`

`covar[3][3] = getExpPosErrorX(z)*getExpPosErrorX(z);`

`covar[4][4] = getExpPosErrorY(z)*getExpPosErrorY(z);`

- Challenge: 17K lines of tracking code and ~250K lines of the whole software

## Hardware/Commissioning preparation

- Magnet Rack Layout -> Presented in commissioning meeting
- Mock Data Challenge -> Presented in Software Meeting