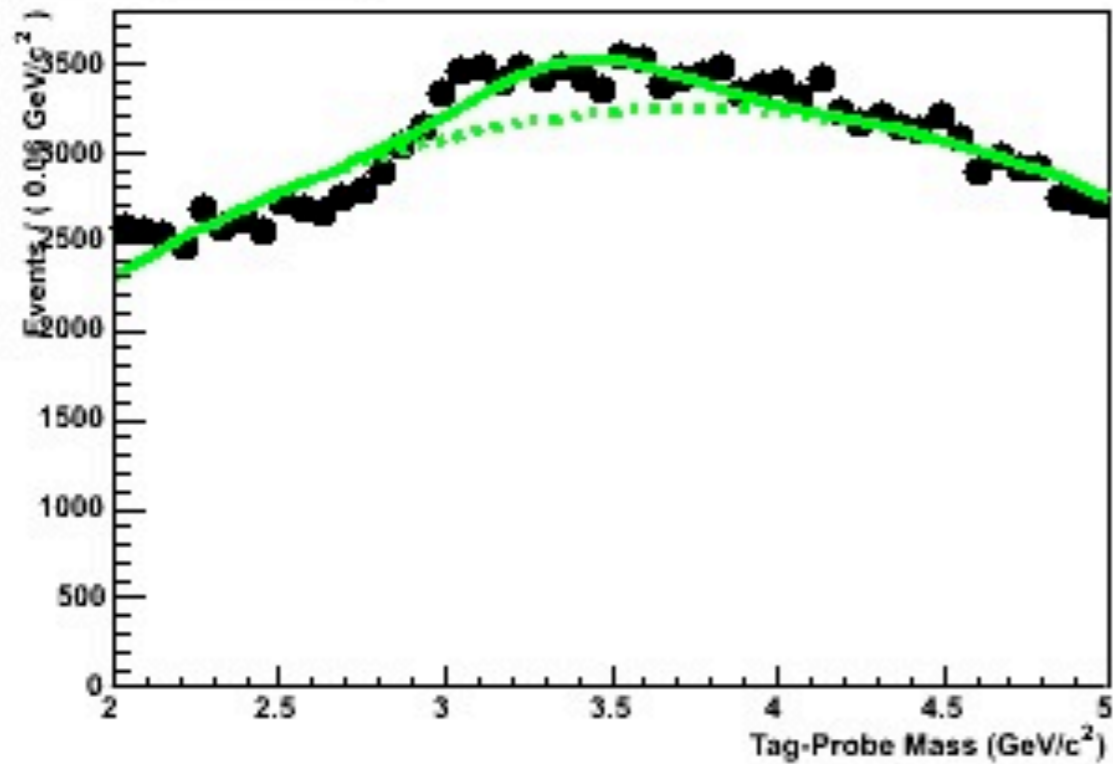# Guillermo Breto Rangel - TnP Update

- Updating the Tag and Probe in Real Data

- Triggering, Tracking and MuonID

- Tracking is challenging due to bad resolution of STA muons.
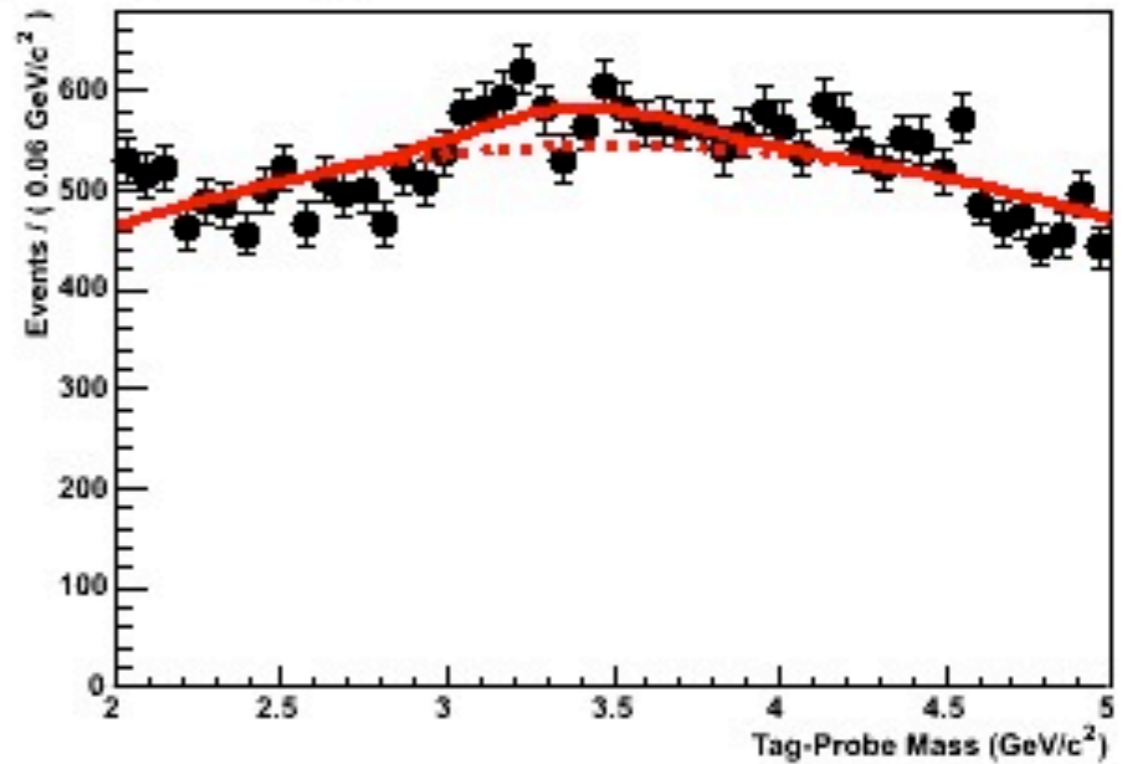
TnP

- I tried TnP for tracking and Triggering to see if it was working and got the following results.

- Tracking efficiency will be a challenge.

- Triggering efficiency (peaks are showing).

- Recommendations. Make 1 bin pt and 1 bin eta only.
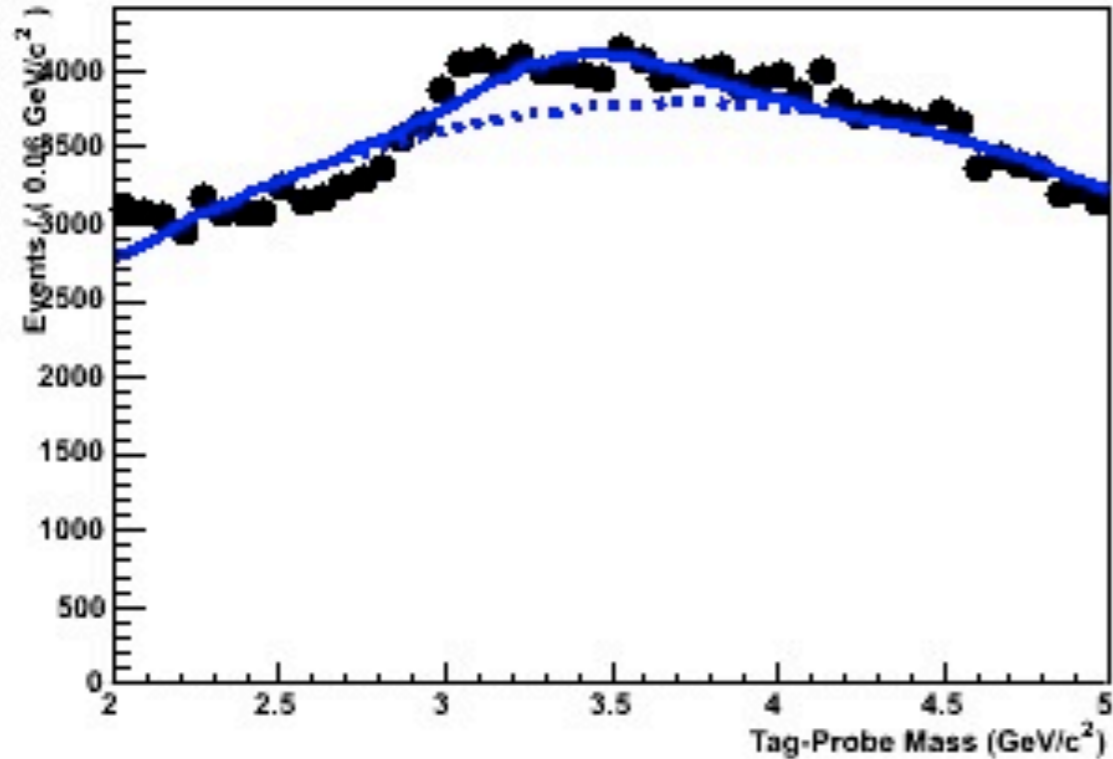
2
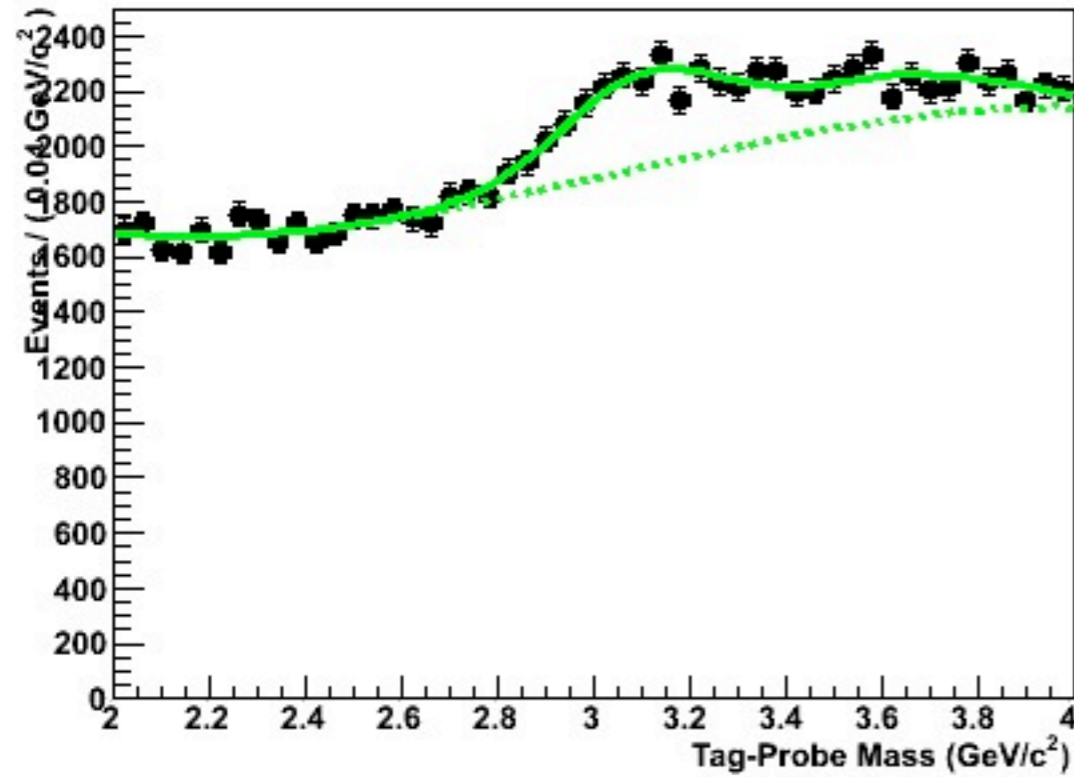
Tracking Efficiency - Mass Fits (first trial)

cFail = 0.01± 0.01

cFail2 = -0.077 ± 0.02
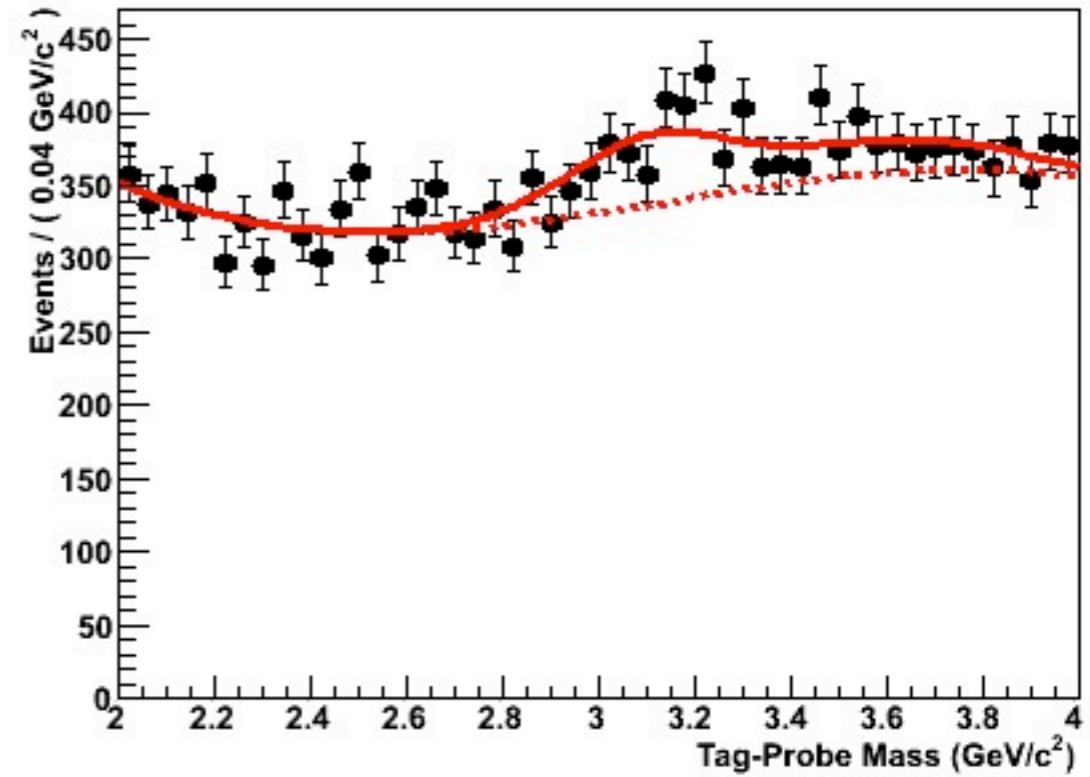
cPass = 0.077 ± 0.005

cPass2 = -0.1219 ± 0.006

efficiency = 0.89 ± 0.04

mean = 3.40 ± 0.03

numBackgroundFail = 25936 ± 237

numBackgroundPass = 149837 ± 583

numSignalAll = 4359 ± 504

sigma = 0.300 ± 0.006

Tracking Efficiency - Mass Fits (second trial)

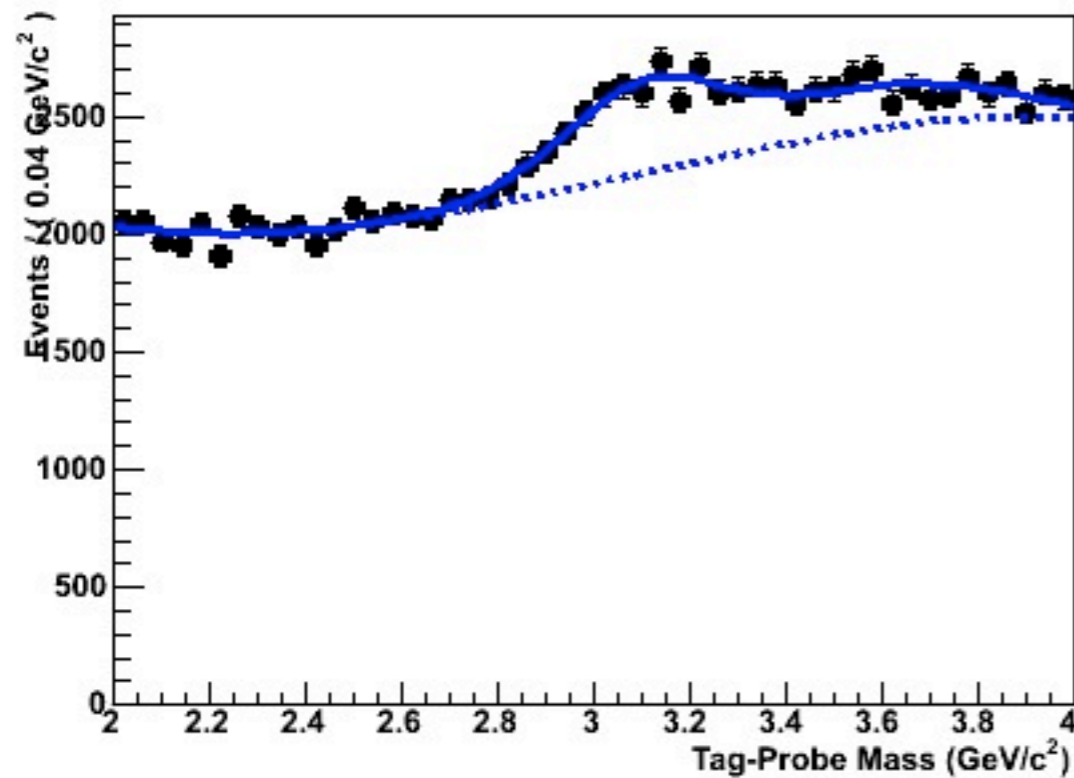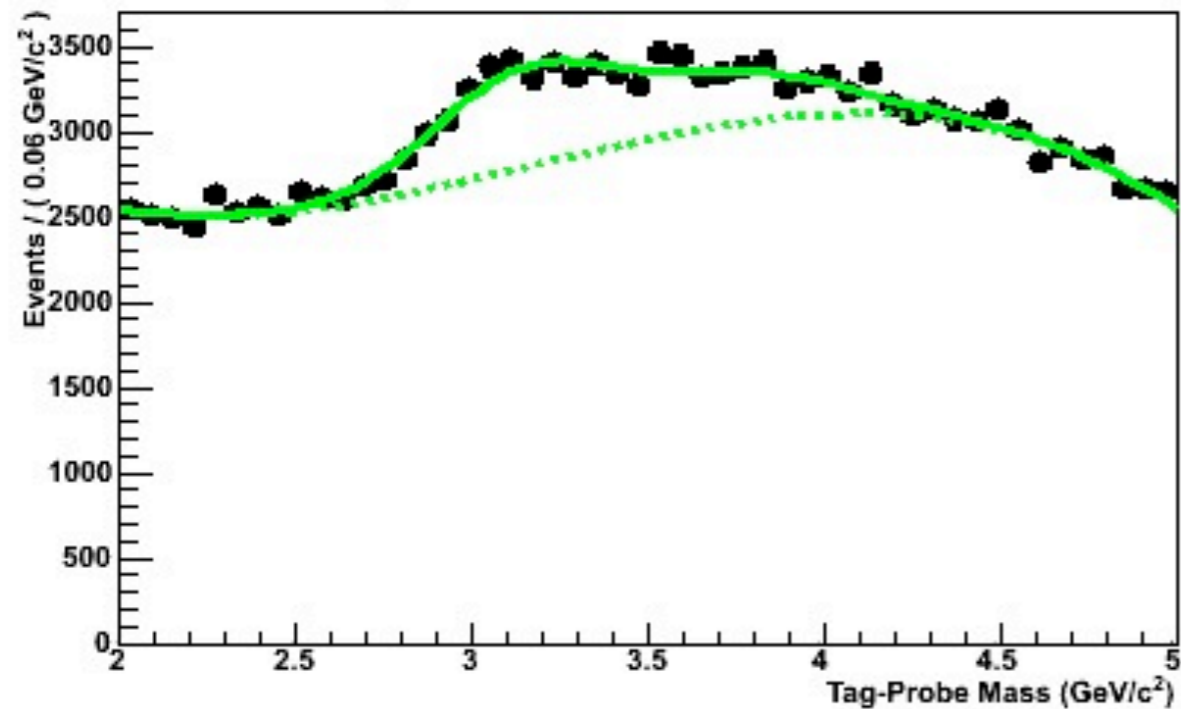**Passing Probes**

Failing Probes

All Probes
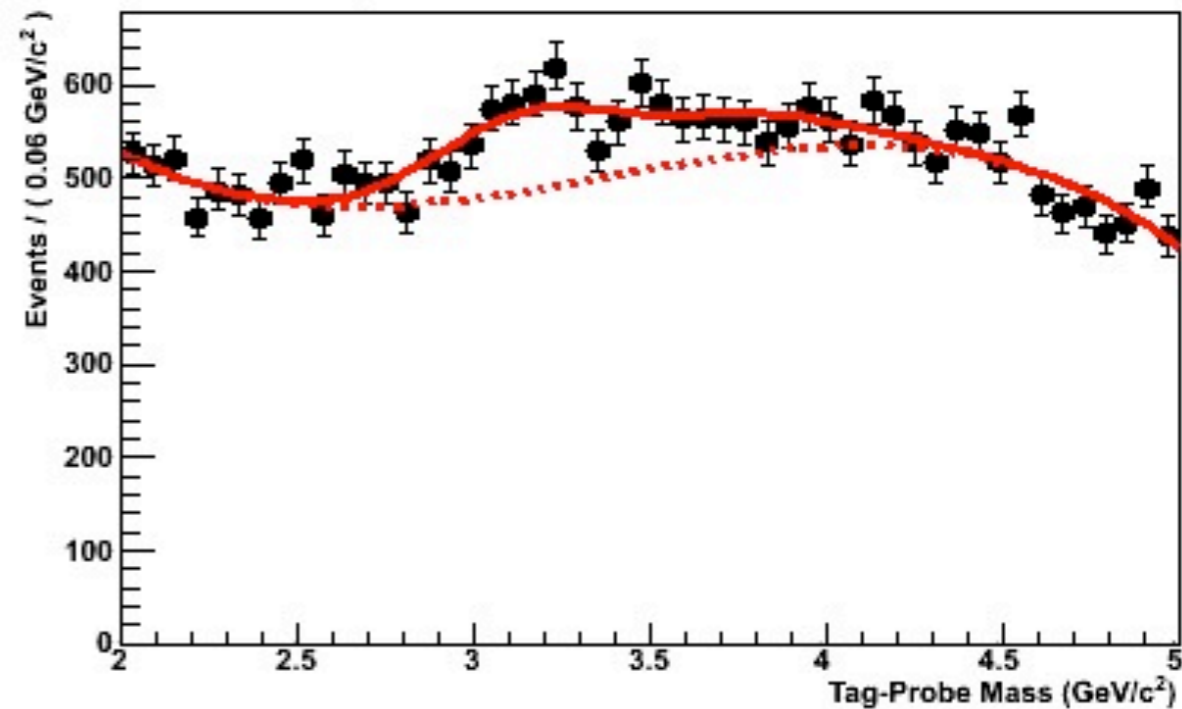

cFail = 0.04 ± 0.03

cFail2 = 0.03 ± 0.02

cFail3 = -0.034 ± 0.02

cPass = 0.14 ± 0.03

cPass2 = 0.01 ± 0.02

cPass3 = -0.021 ± 0.02

efficiency = 0.88 ± 0.04

f = 0.6 ± 0.3

mean1 = 3.10 ± 0.03

mean2 = 3.60 ± 0.04

numBackgroundFail = 16955 ± 445

numBackgroundPass = 94729 ± 2685

numSignalAll = 6562 ± 3017

sigma1 = 0.17 ± 0.02

sigma2 = 0.2 ± 0.1
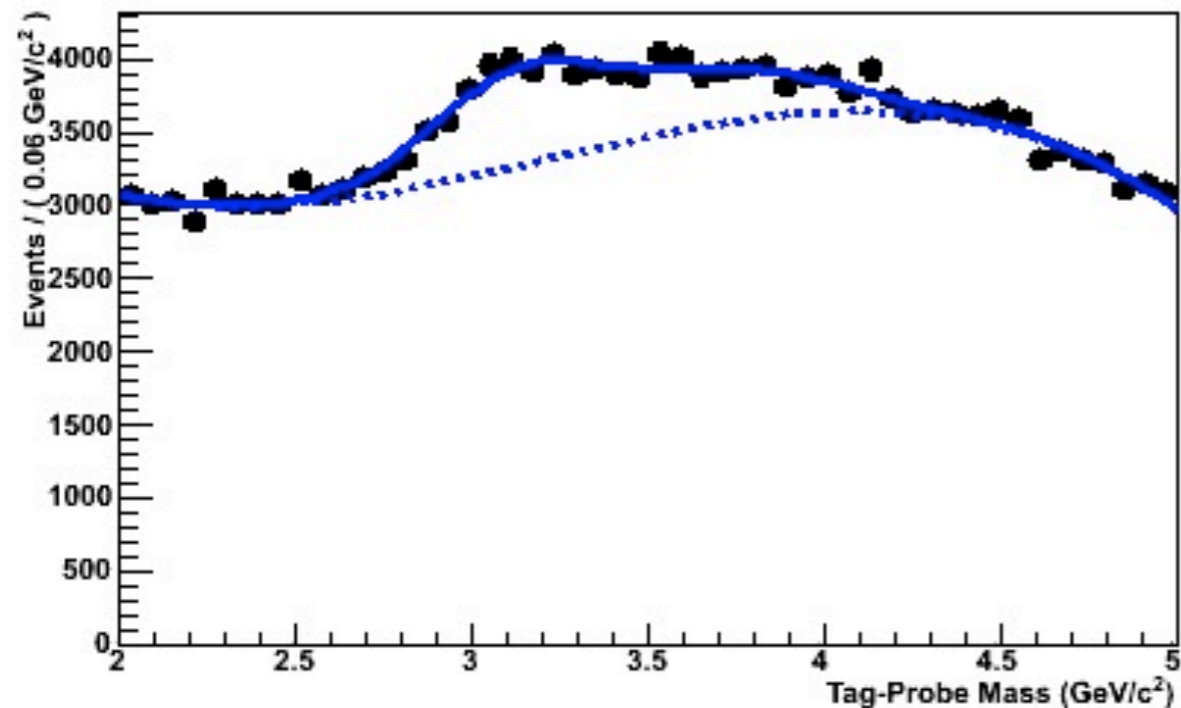
Tracking Efficiency - Mass Fits (third trial)

Passing Probes

Failing Probes
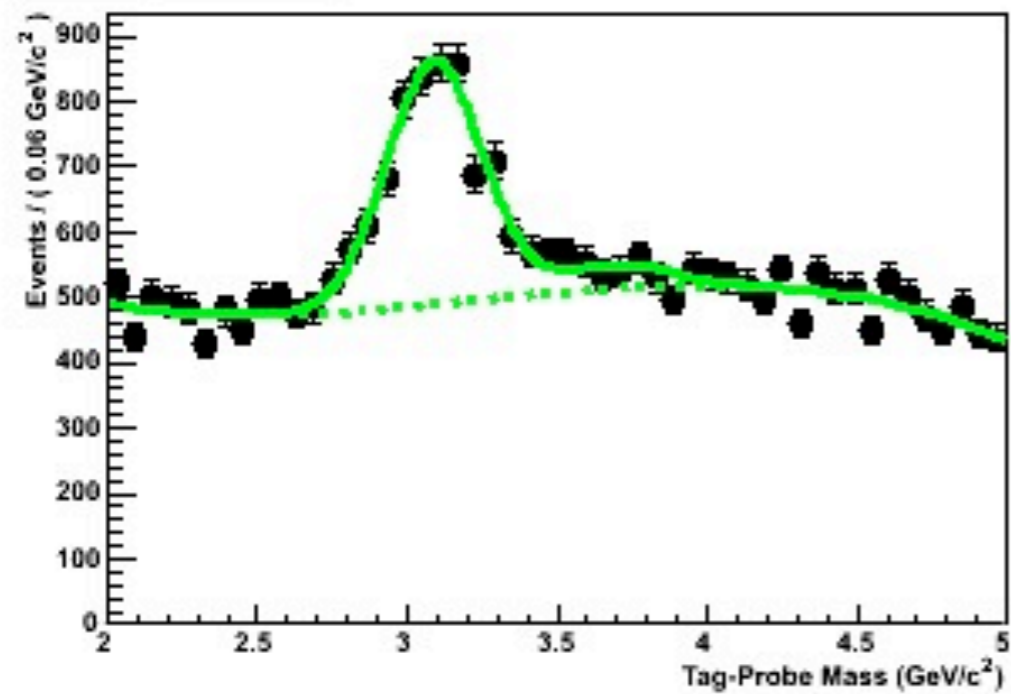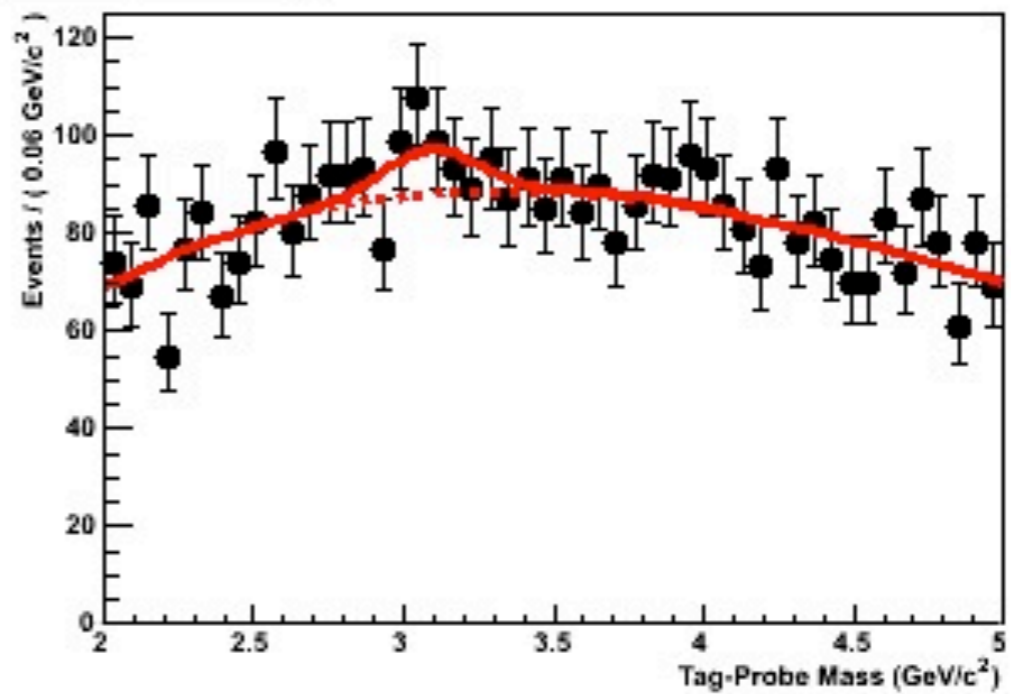
All Probes

cFail = -0.026 ± 0.01

cFail2 = -0.034 ± 0.03

cFail3 = -0.076 ± 0.01

cPass = 0.059 ± 0.006

cPass2 = -0.074 ± 0.02

cPass3 = -0.0578 ± 0.008

efficiency = 0.87 ± 0.02

f = 0.62 ± 0.03

mean1 = 3.14 ± 0.02

numBackgroundFail = 24955 ± 536

numBackgroundPass = 141019 ± 2304

numSignalAll = 10636 ± 2717

sigma1 = 0.2 ± 0.2
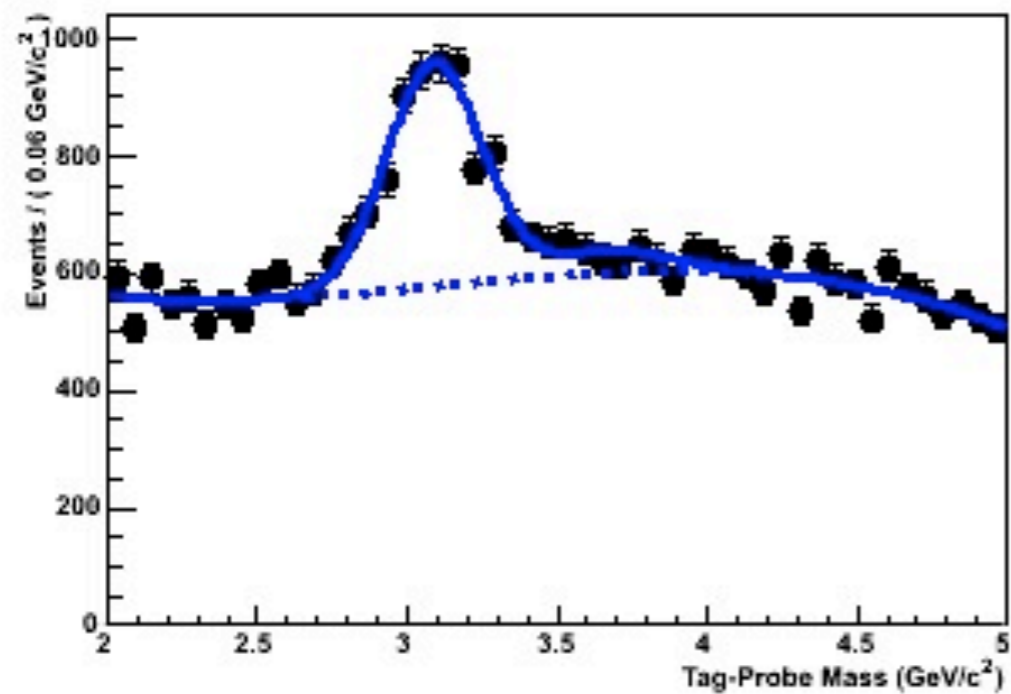
Tracking Efficiency - Mass Fits (most peripheral bin)

Passing Probes

Failing Probes

All Probes

cFail = -0.008 ± 0.03

cFail2 = -0.120 ± 0.03

cFail3 = 0.02 ± 0.03

cPass = -0.012 ± 0.01

cPass2 = -0.044 ± 0.02

cPass3 = -0.044 ± 0.01

efficiency = 0.98 ± 0.02

f = 0.90 ± 0.04

mean1 = 3.091 ± 0.008

numBackgroundFail = 4103 ± 80

numBackgroundPass = 24618 ± 326

numSignalAll = 2825 ± 299

sigma1 = 0.159 ± 0.010