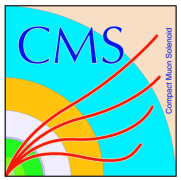
Z(3900) search in pPb

10-Oct-14



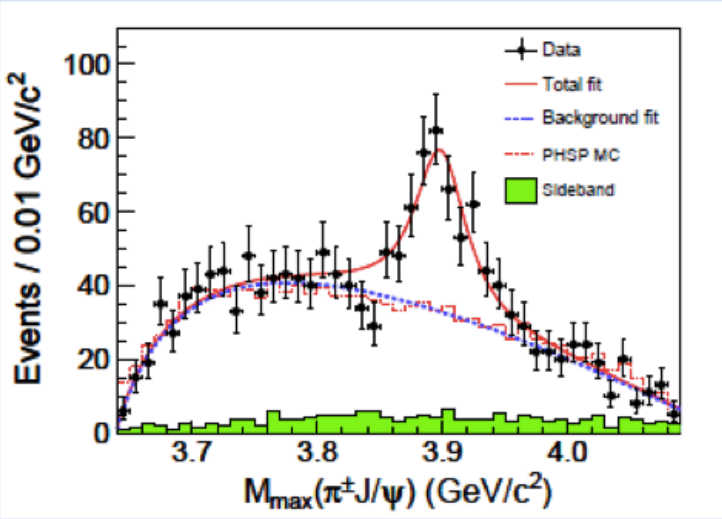
Z(3900)

- 2013 -

BESIII $e^+e^- \to \pi^+\pi^- J/\psi$

$$M = 3899.0 \pm 3.6 \pm 4.9\ \text{MeV}$$

$$\Gamma = 46 \pm 10 \pm 20\ \text{MeV}$$

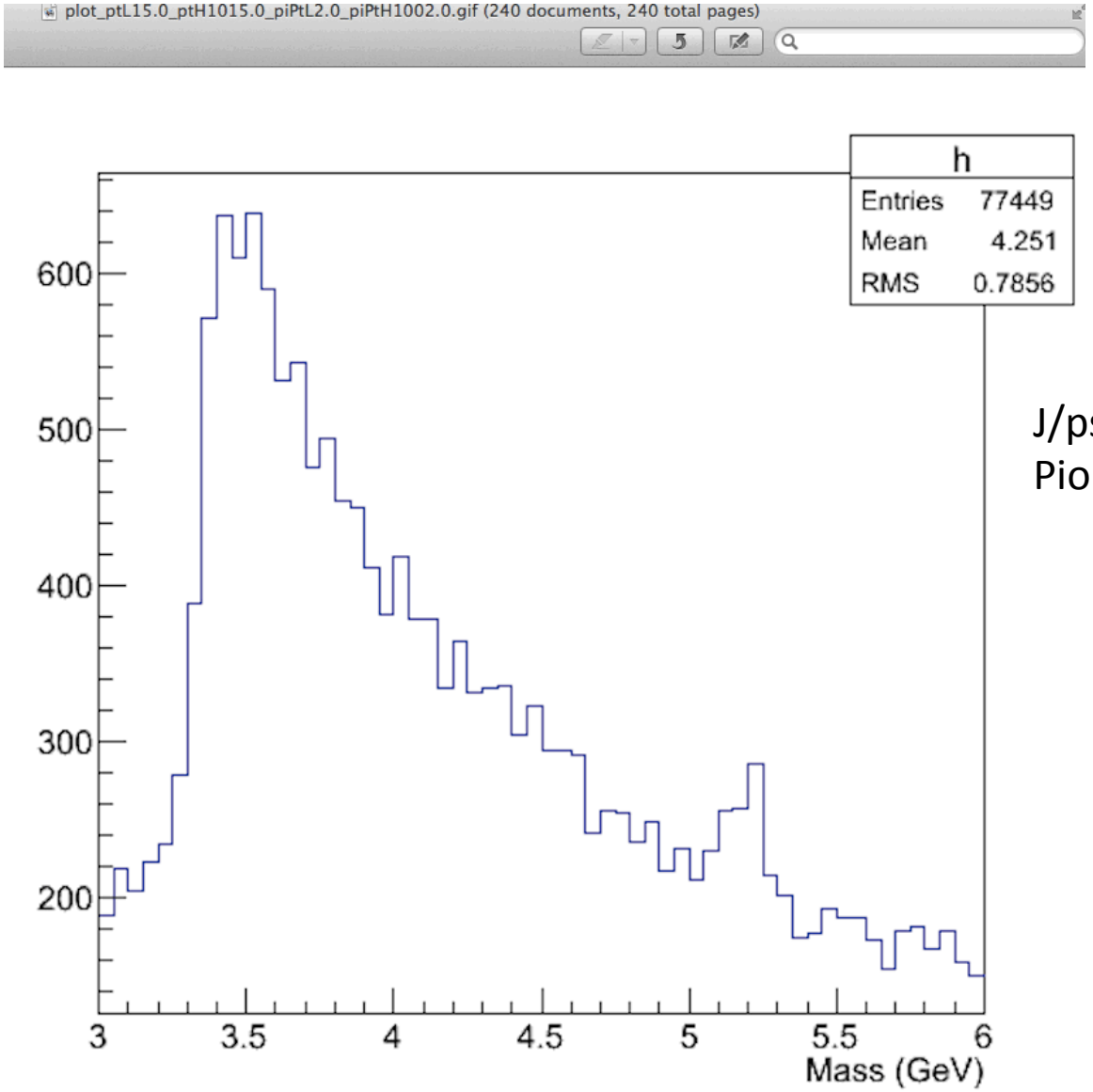


Probably the same Quantum Number as Z(4430)

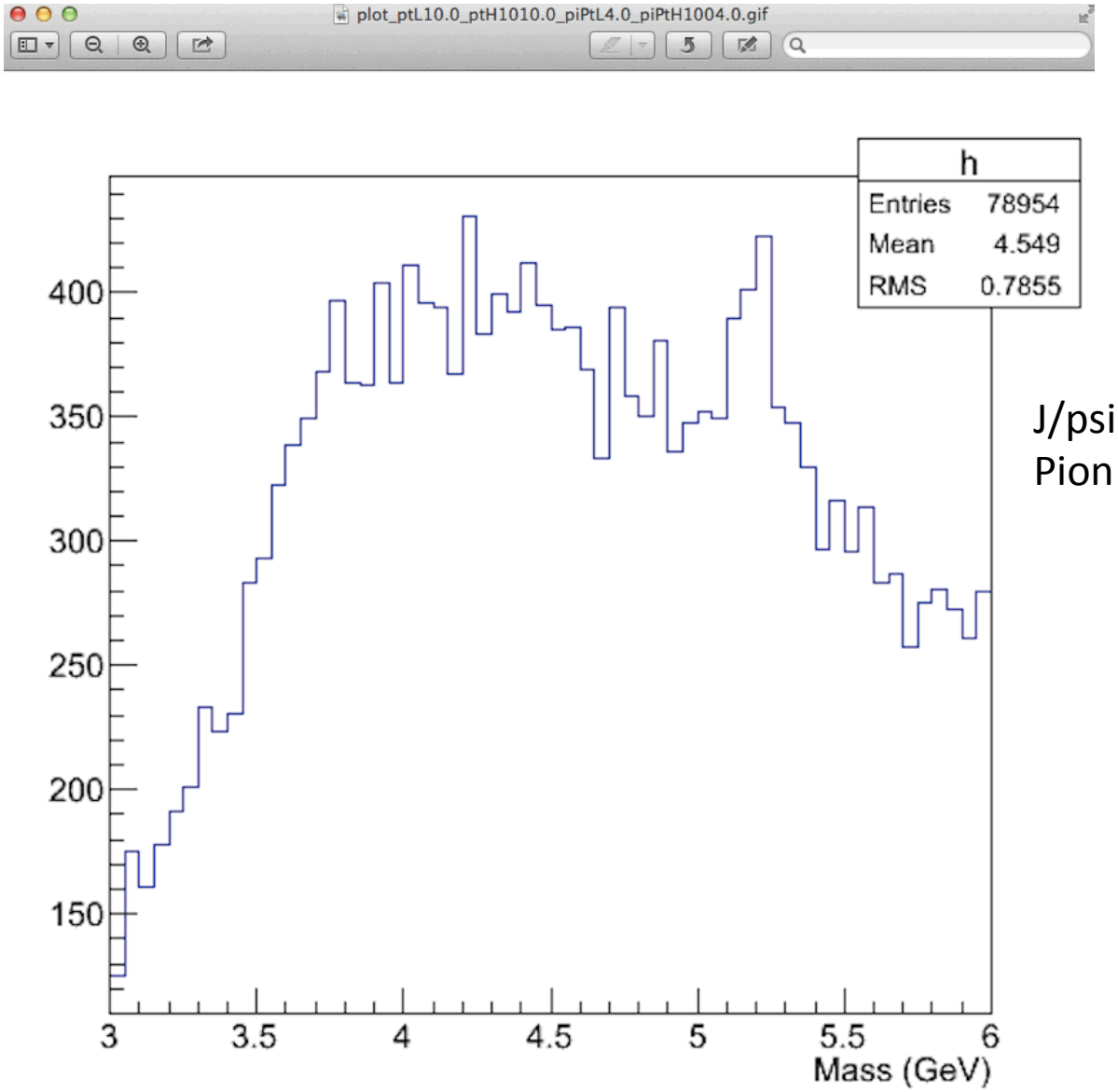
Hence,

- Used ~half of statistics in Pb-p collisions

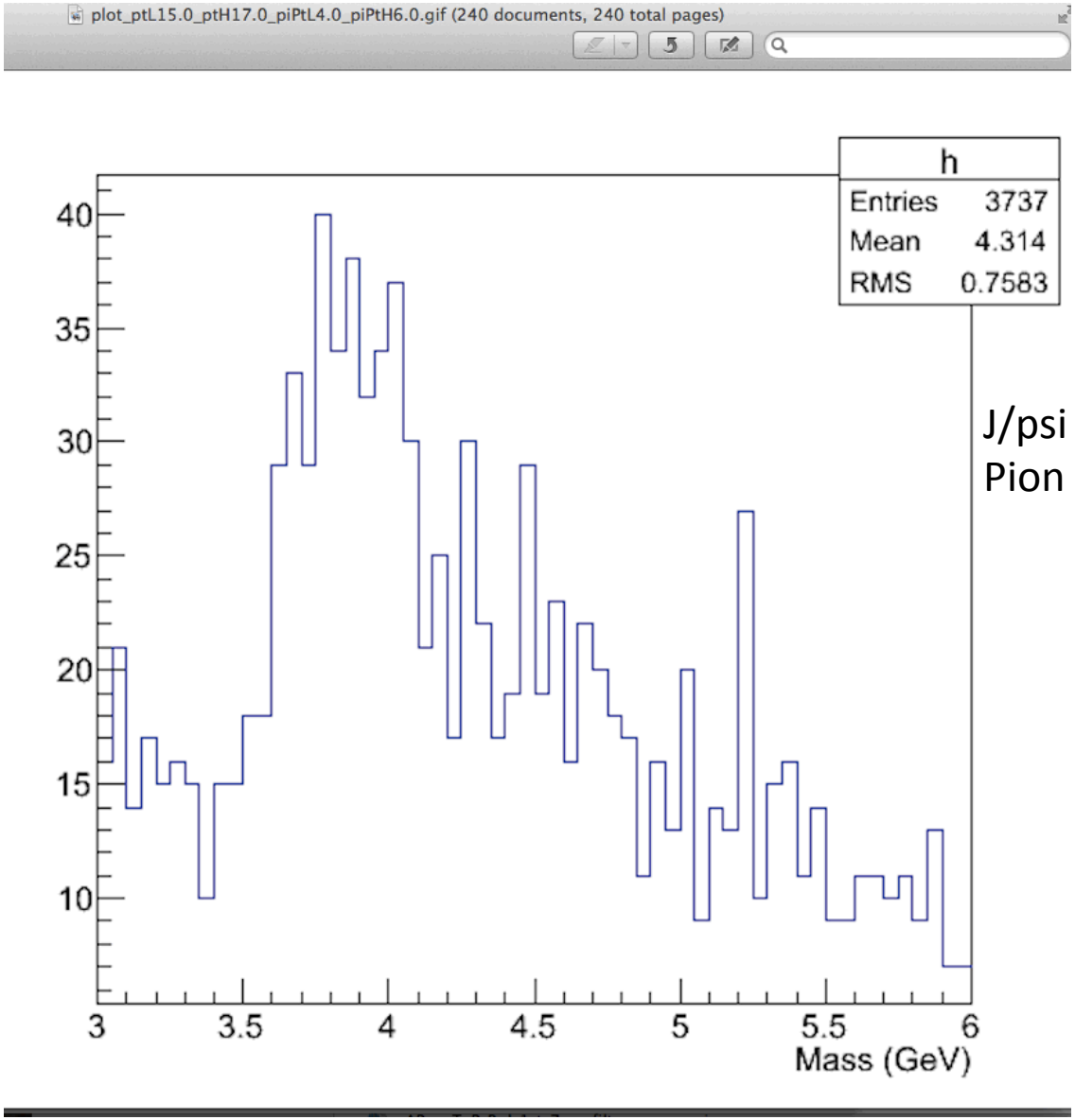
- J/psi selection:
  - |eta|<2.0
  - Any J/psi candidates with inv. Mass in 2 – 5GeV
  - If there are more than one, the pair having inv. mass closest to the J/psi mass is selected
- Track selection:
  - High purity
  - |eta| < 2.0
- Checked the inv. Mass spectra in various J/psi and pion pT bins



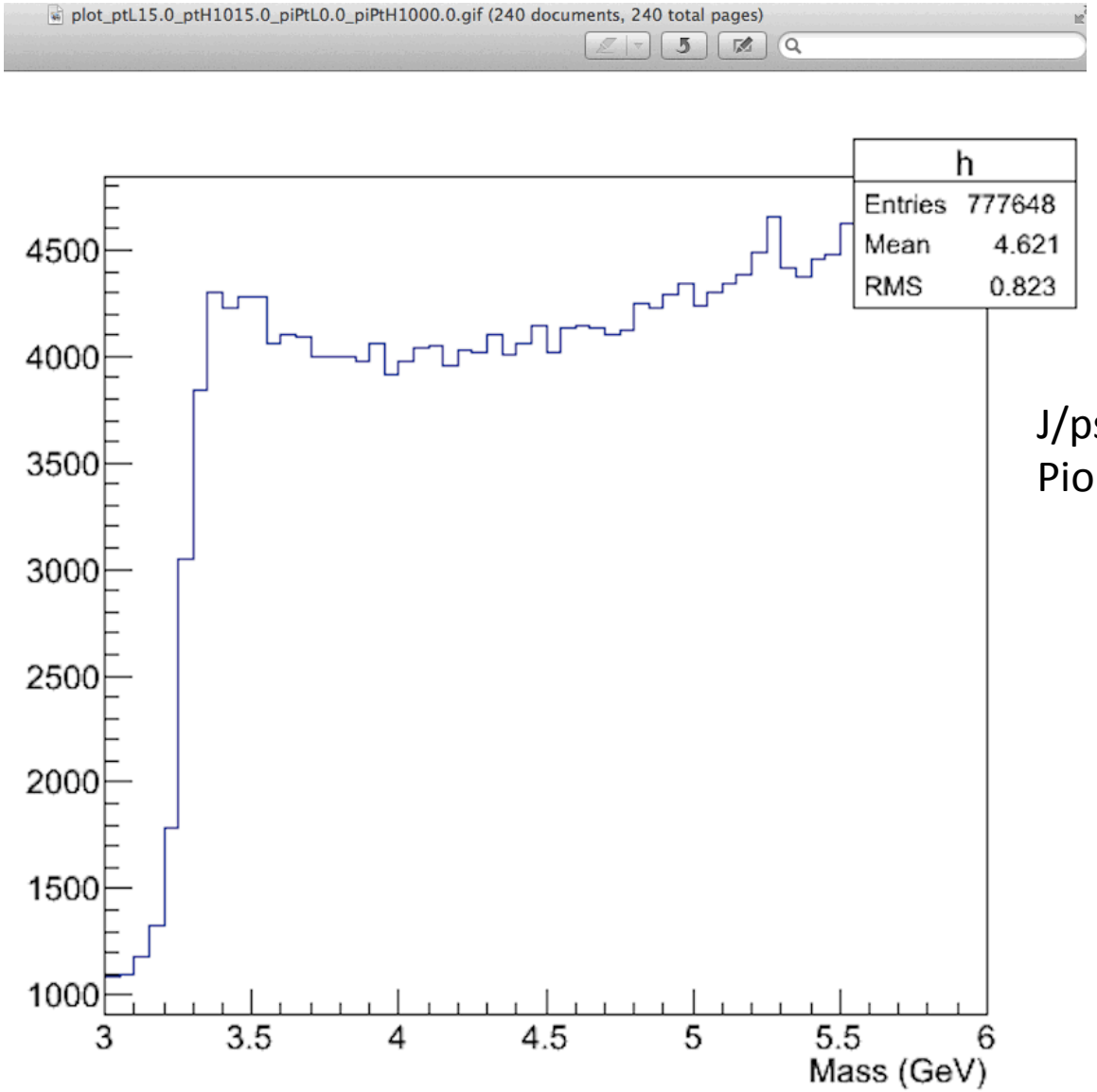
J/psi pT > 15GeV
Pion pT > 2GeV



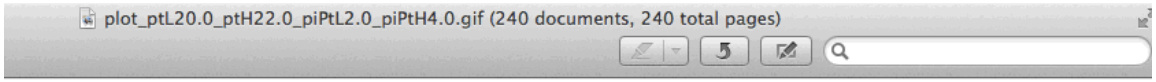
J/psi pT > 10GeV
Pion pT > 4GeV

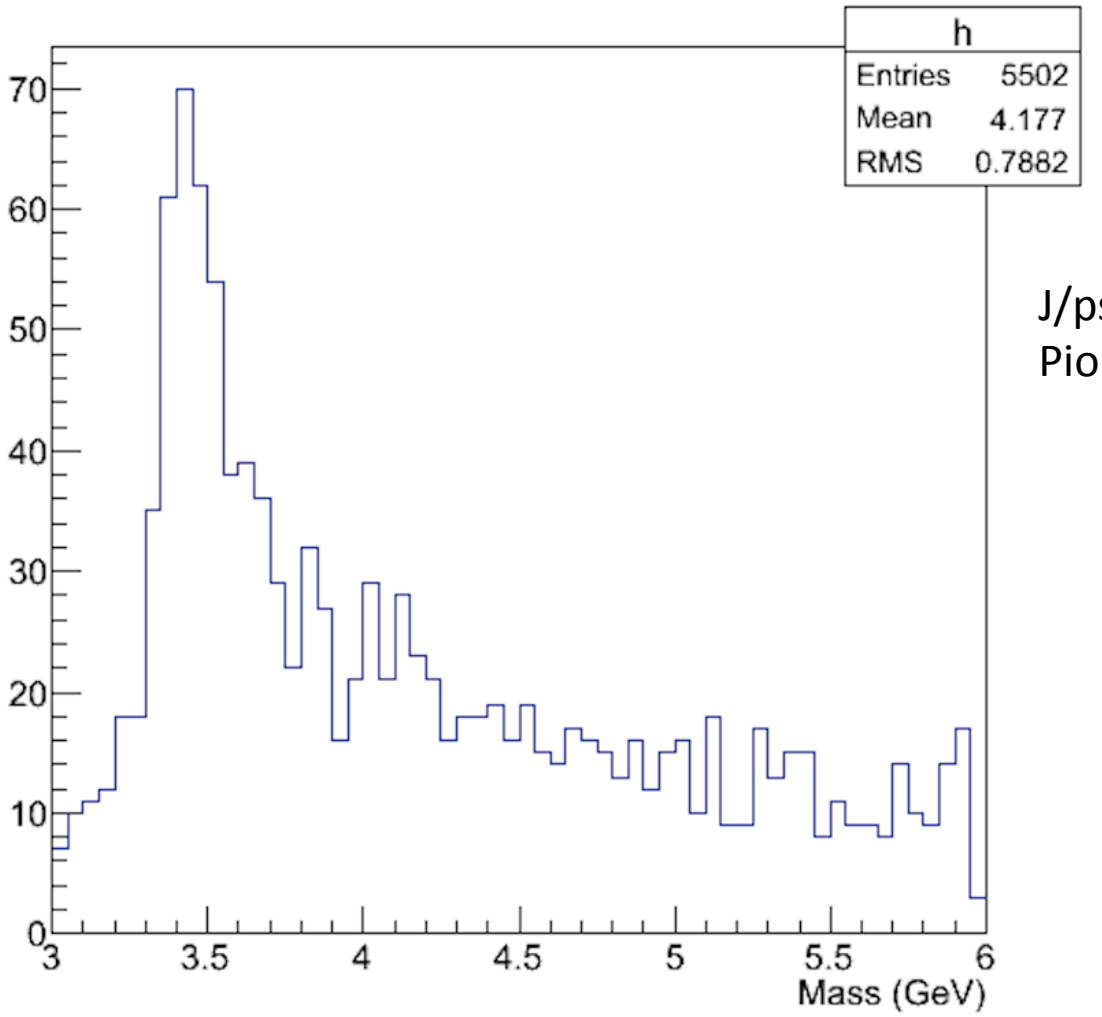


J/psi pT : 15GeV – 17GeV
Pion pT > 4GeV

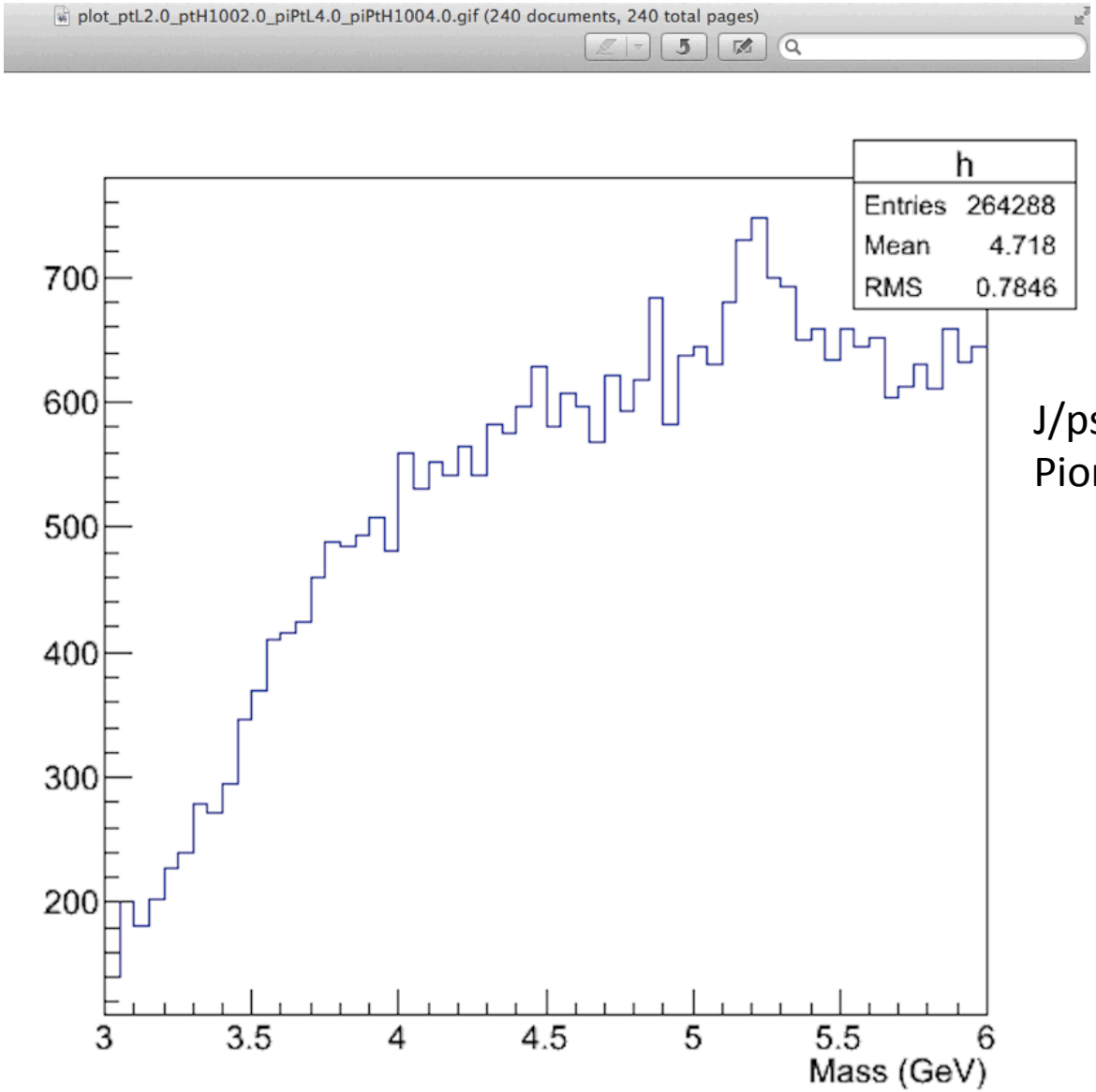


J/psi pT > 15GeV
Pion pT > 0GeV

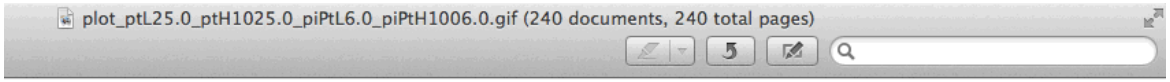


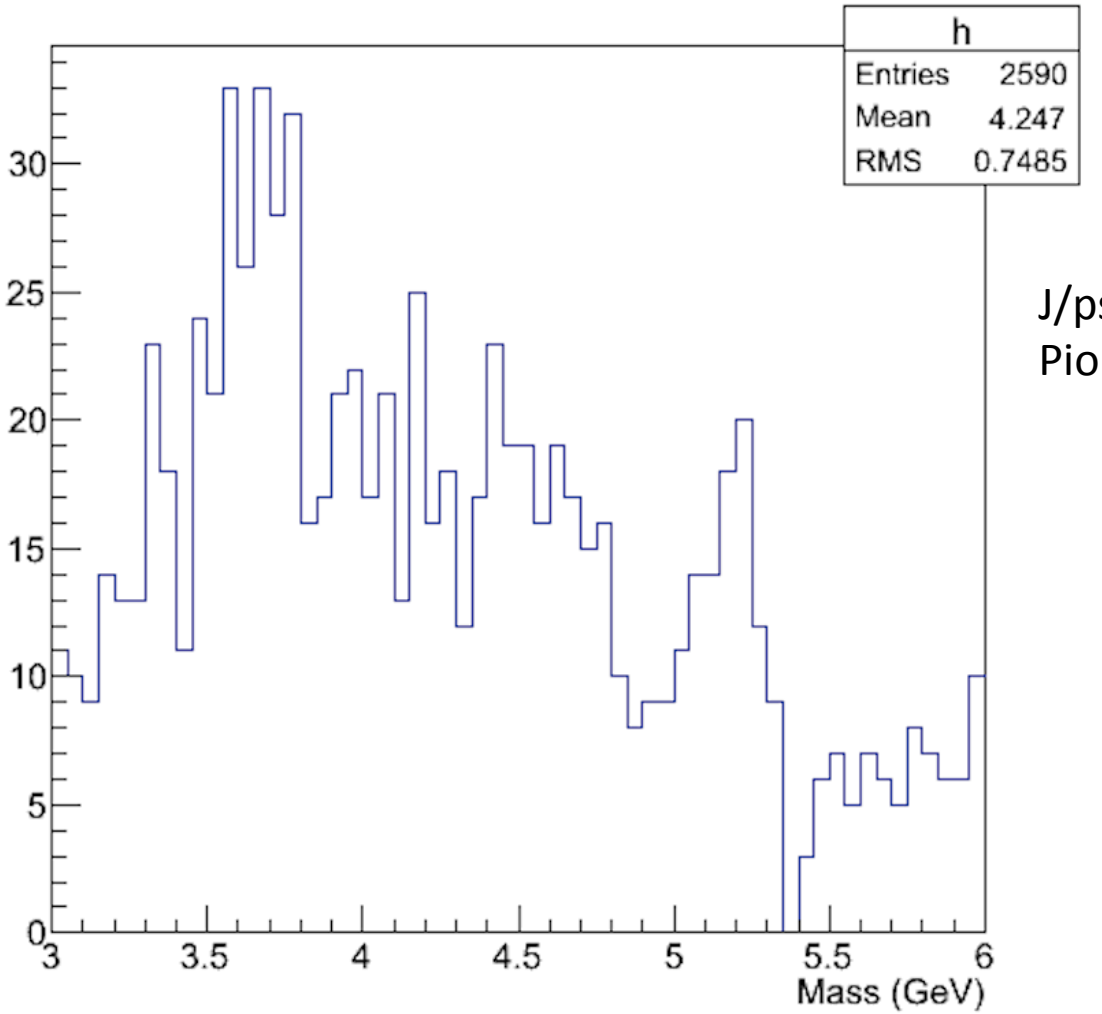


J/psi pT : 20 – 25 GeV
Pion pT : 2 – 4 GeV

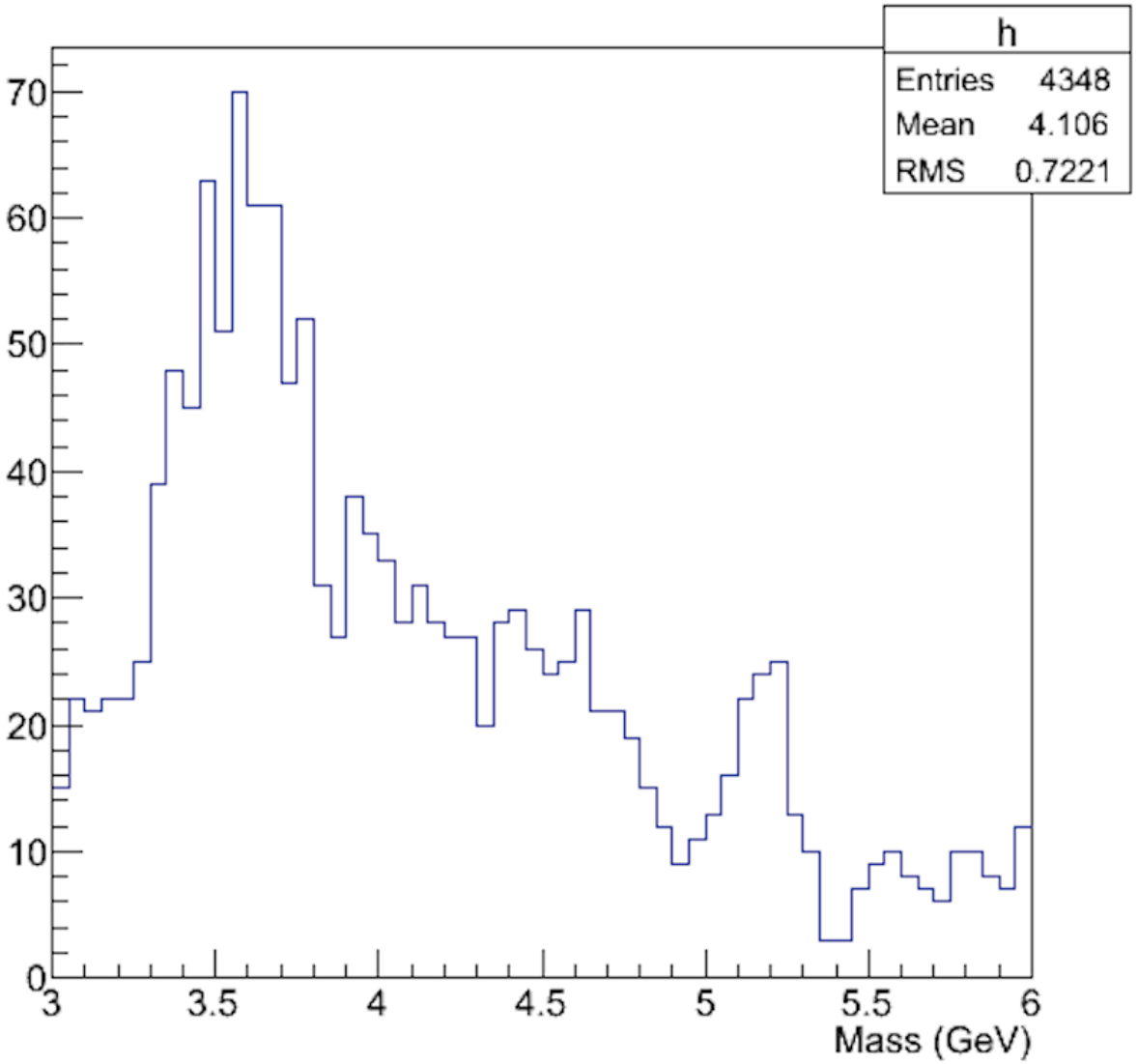


J/psi pT > 2GeV
Pion pT > 4GeV





J/psi pT > 25GeV
Pion pT > 6GeV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Entries 4348
Mean 4.106
RMS 0.7221
70
60
50
40
30
20
10
0
3
3.5
4
4.5
5
5.5
6
Mass (GeV)