

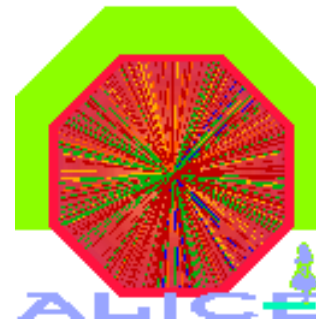
Very first results on $\Lambda(1520)$

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Resonances Task Force Meeting

H-QM | Helmholtz Research School
Quark Matter Studies



$\Lambda(1520)$

$\underline{\Lambda}^*$

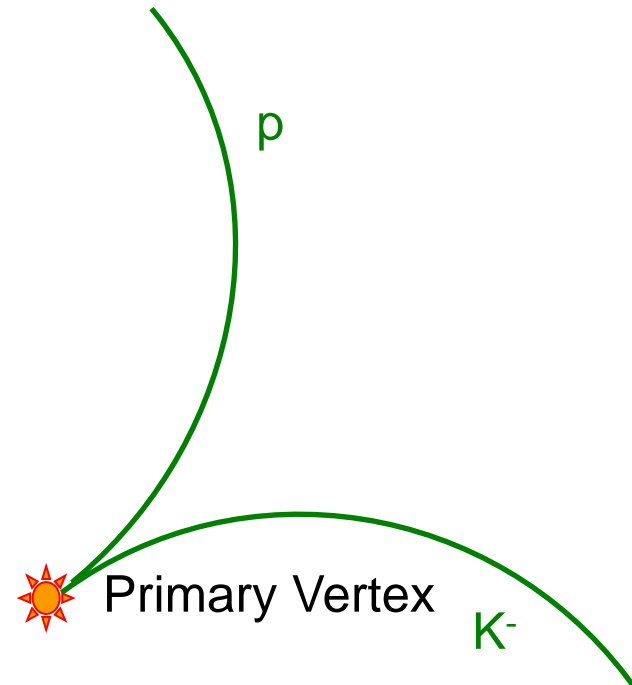
Mass: $(1519.5 \pm 1.0) \text{ MeV}/c^2$

Width: $(15.6 \pm 1.0) \text{ MeV}/c^2$

Channel:

$N\bar{K}$ $(45.0 \pm 1.0)\%$

$\rightarrow pK^-$ $(22.5 \pm 0.5)\%$



Track selection

Single track cuts

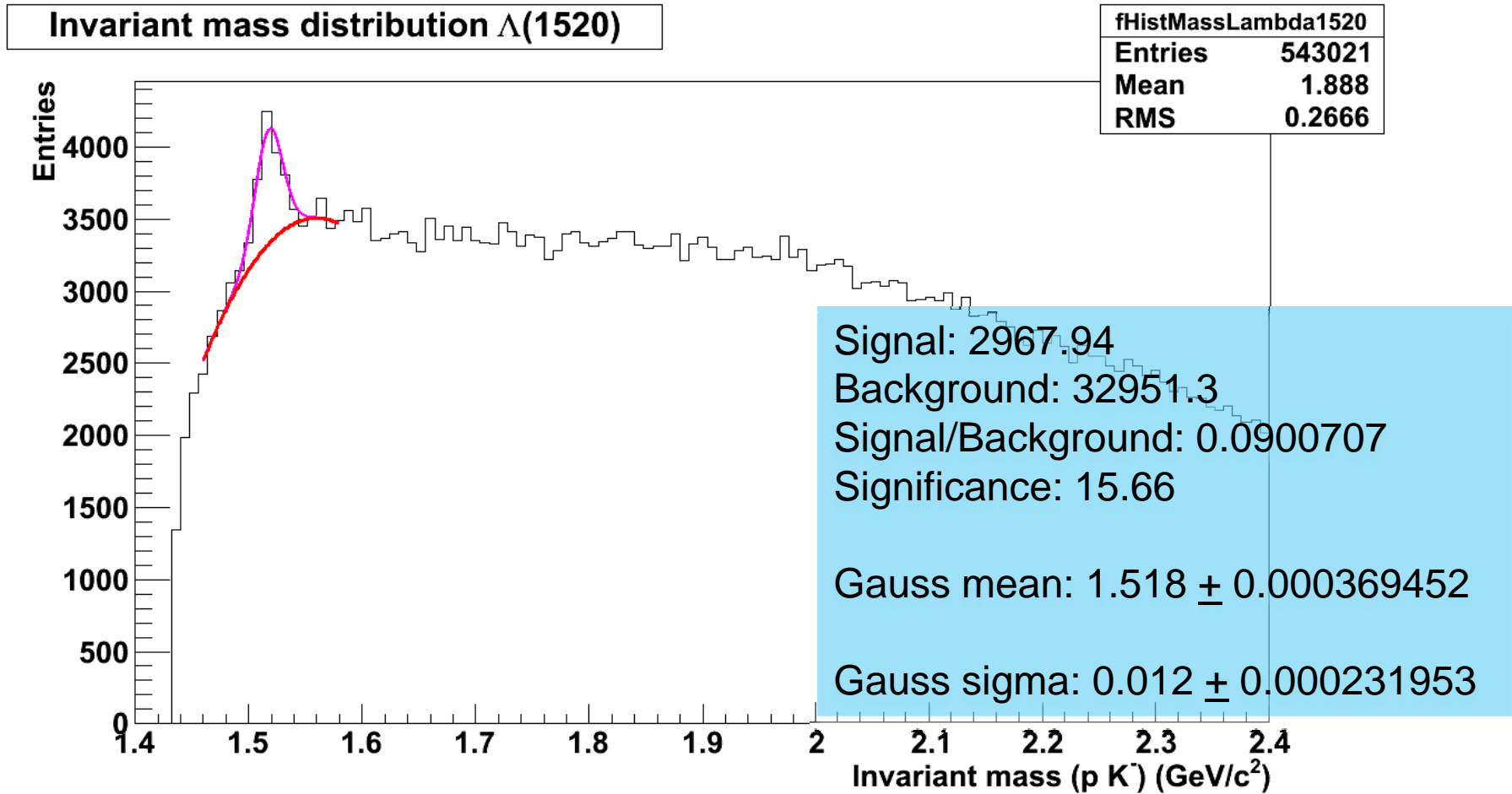
- `fEsdTrackCuts->SetMinNClustersTPC(50);`
- `fEsdTrackCuts->SetMinNClustersITS(5);`
- `fEsdTrackCuts->SetRequireTPCRefit(kTRUE);`
- `fEsdTrackCuts->SetRequireITSRefit(kTRUE);`

Further cuts

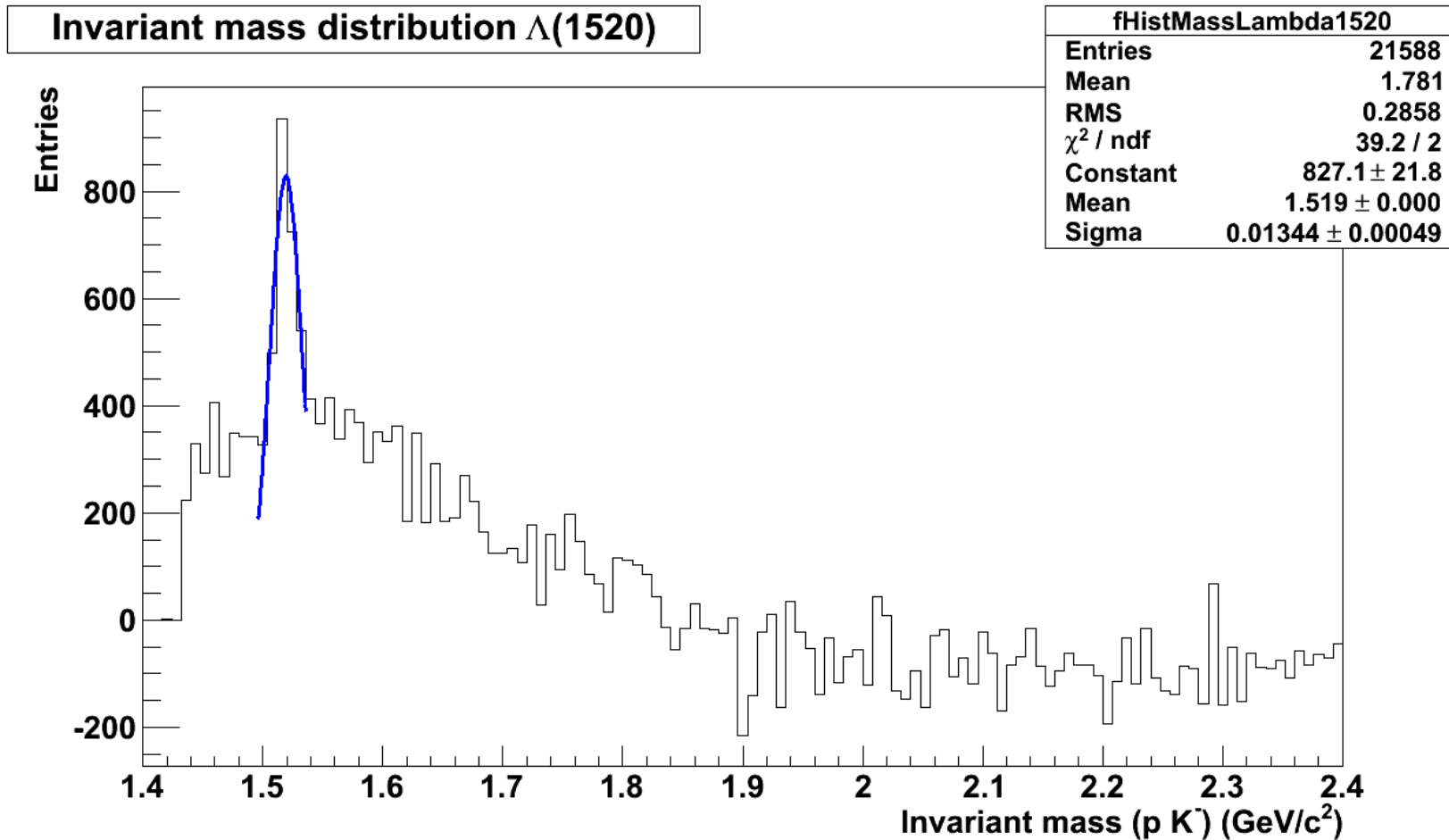
- dca of the daughters < 0.1 cm
- d_0 of each track < 0.05 cm

- Use AliKFparticle
- For PID ITS, TPC and TOF are used, i ask the particle to be in a 3σ window around the p/K⁻ line

Signal/background separation

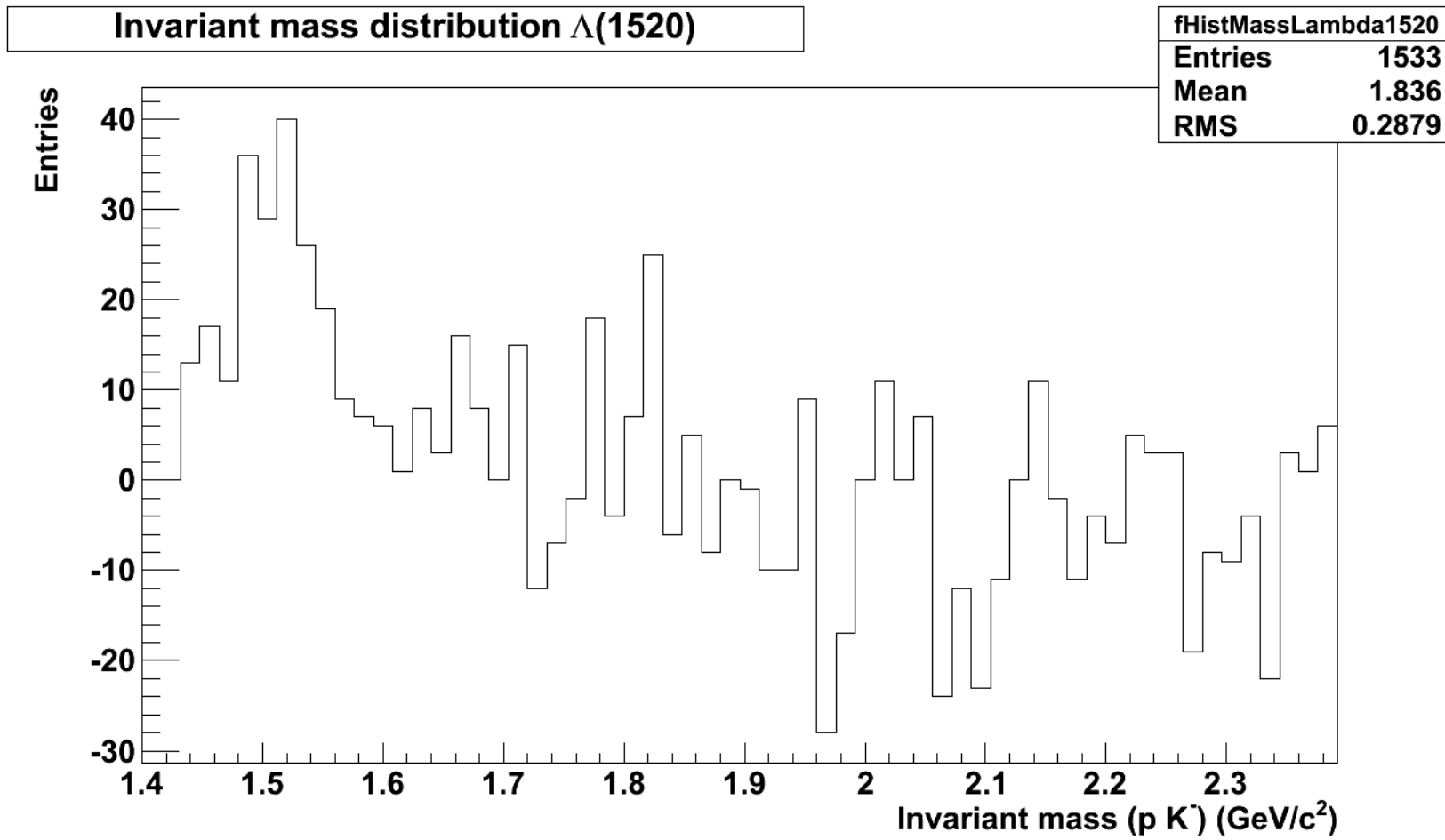


Background subtracted



- Only LHC10c pass2 data shown (~76 million events)
- Background done by rotation of one track by $\pi/2$ +small random angle

900 GeV



Whole pass3 data used

Outlook

- Check and tune PID and the cut strategy
- Estimate efficiency and acceptance