The event selection of $J/\psi \to \bar{p}\pi^+n$

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Using 7.8 million data of BESI, we analysed the channel of $J/\psi \to \bar{p}\pi^+n$. In the channel, the neutron is undetectable, so we use the missing mass to identify it. The events selection of the decay channel is as below.

1. $Nchrg = 2, Nneu < 10\text{and}Q_{total} = 0$.
2. $Mfit = 2\text{or} - 9, 1 \leq IT \leq 48, QUAL \leq 2.0$.
3. $R_{xy} \leq 2cm, Z \leq 20cm, |\cos\theta| \leq 0.8$.
4. $0 \leq P \leq 3.096Gev, E_\gamma \leq 0.9Gev$.
5. For plus charged track, if $Wt_p > Wt_\pi\text{and}Wt_p > Wt_K$, then the particle is consider as proton; For minus charged track, if $Wt_\pi > Wt_p\text{and}Wt_\pi > Wt_K$, the particle is π.
6. 1-C fit. After using the cut criteroin Prib¿0.005, a good missing mass spectrum was obtained.(Fig.1)

According the selected data, we got the invarient mass spectrum of $p\pi$ and $n\pi$.(Fig.2)

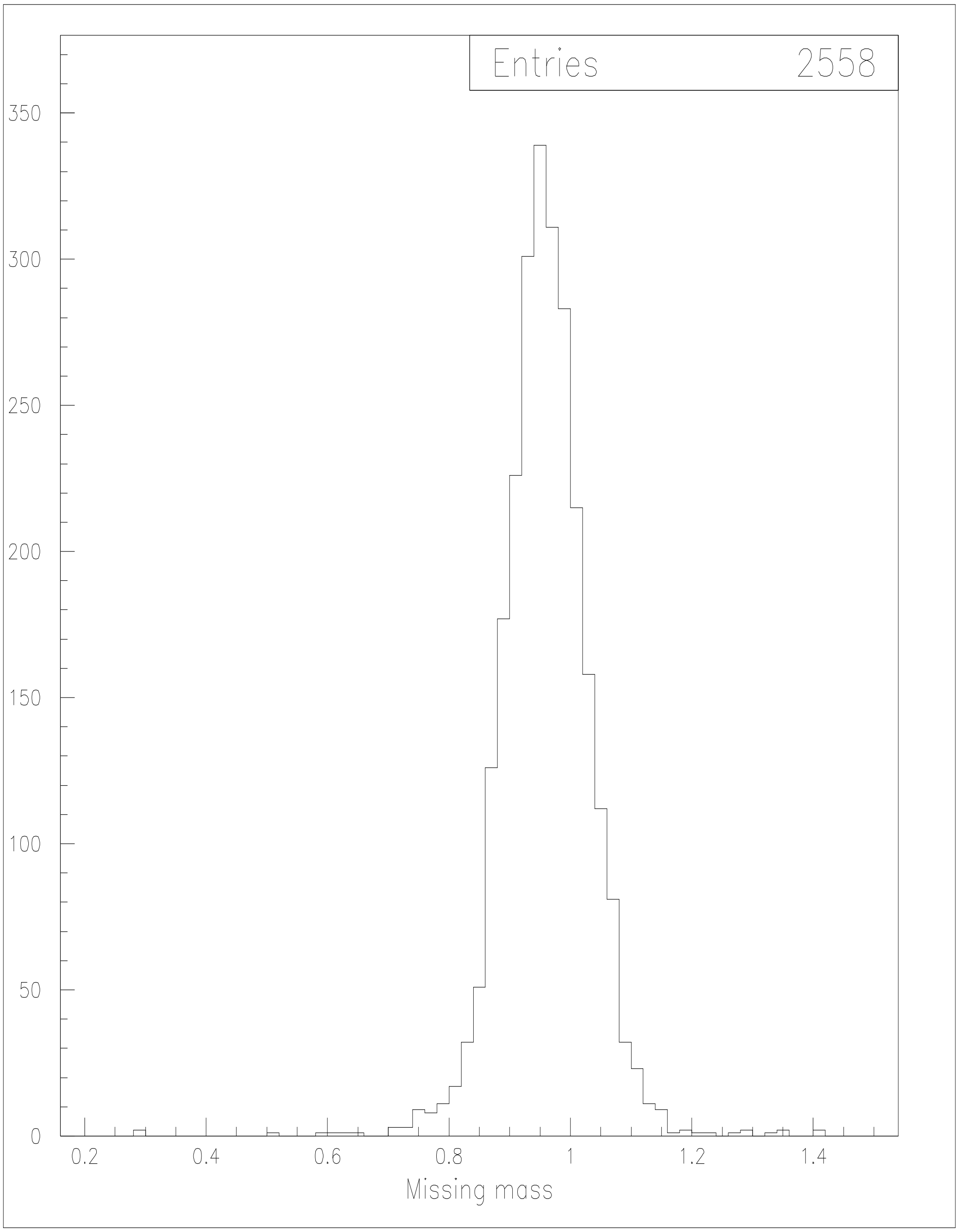

Figure 1: Missing mass spectrum of $J/\psi \to \bar{p}\pi^+ n$

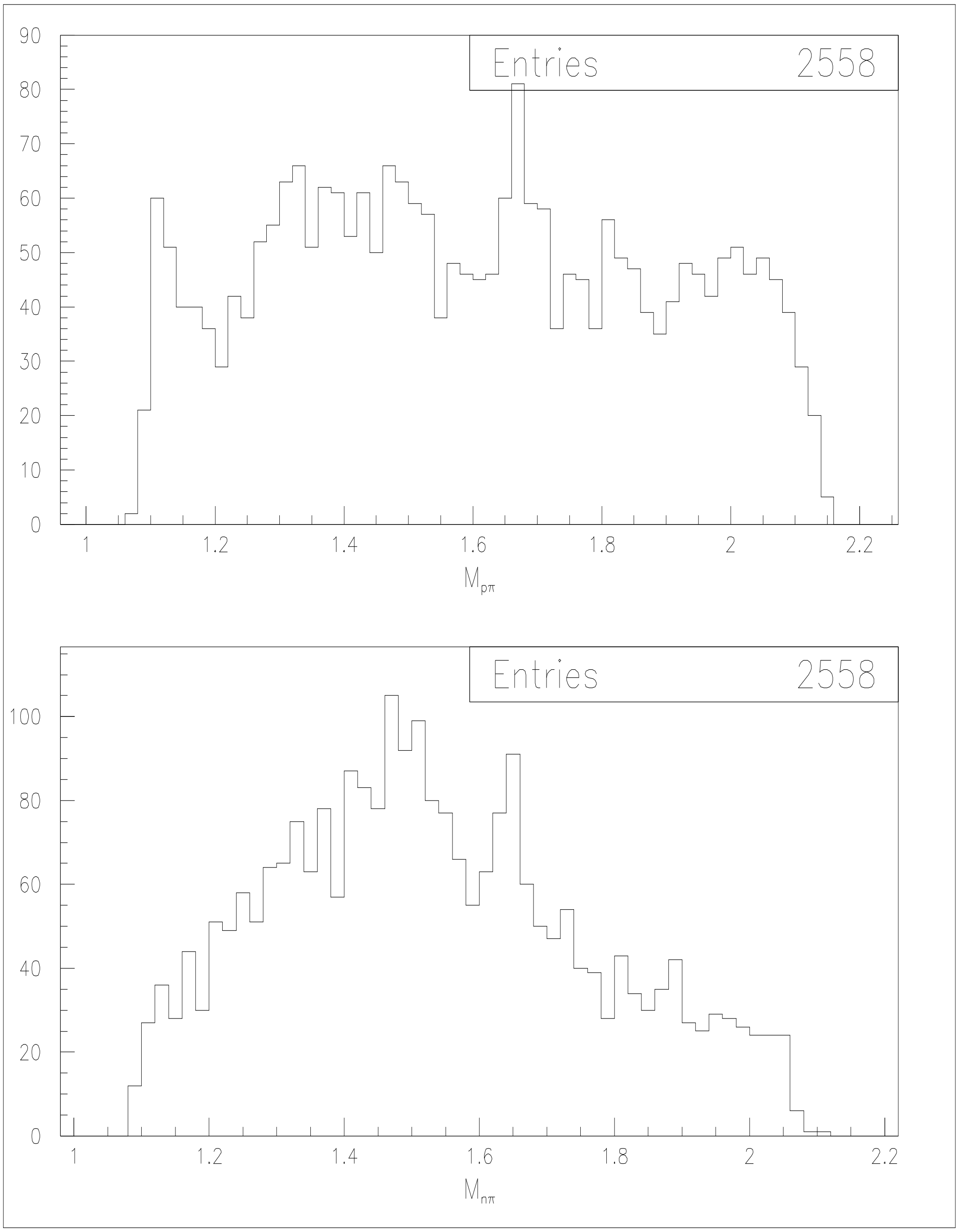

Figure 2: The invarient mass spcetrum of $p\pi$(upper) and $n\pi$(lower).