Preliminary Banching Ratios for Some Decay Channels with BESII J/ψ Data.

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Outline

- $J/\psi \to \omega\pi^+\pi^-$
- $J/\psi \to \gamma K_s K_s$
- $J/\psi \to \phi\pi^+\pi^-$
- $J/\psi \to \omega K^+ K^-$
- $J/\psi \to p\bar{p}\pi^0$
- $J/\psi \to p\bar{p}\eta$
- $J/\psi \to p\pi^-\bar{n}$

1. $J/\psi \to \omega\pi^+\pi^-$

$$Br(J/\psi \to \omega\pi^+\pi^-) = (8.0 \pm 0.2) \times 10^{-3}$$

PDG value:

$$Br(J/\psi \to \omega\pi^+\pi^-) = (7.2 \pm 1.0) \times 10^{-3}$$

2. $J/\psi \to \omega K^+K^-$

$$M_\omega = 782.4 \pm 0.7 \ MeV$$

$$\Gamma_\omega = 10.7 \pm 2.6 \ MeV$$

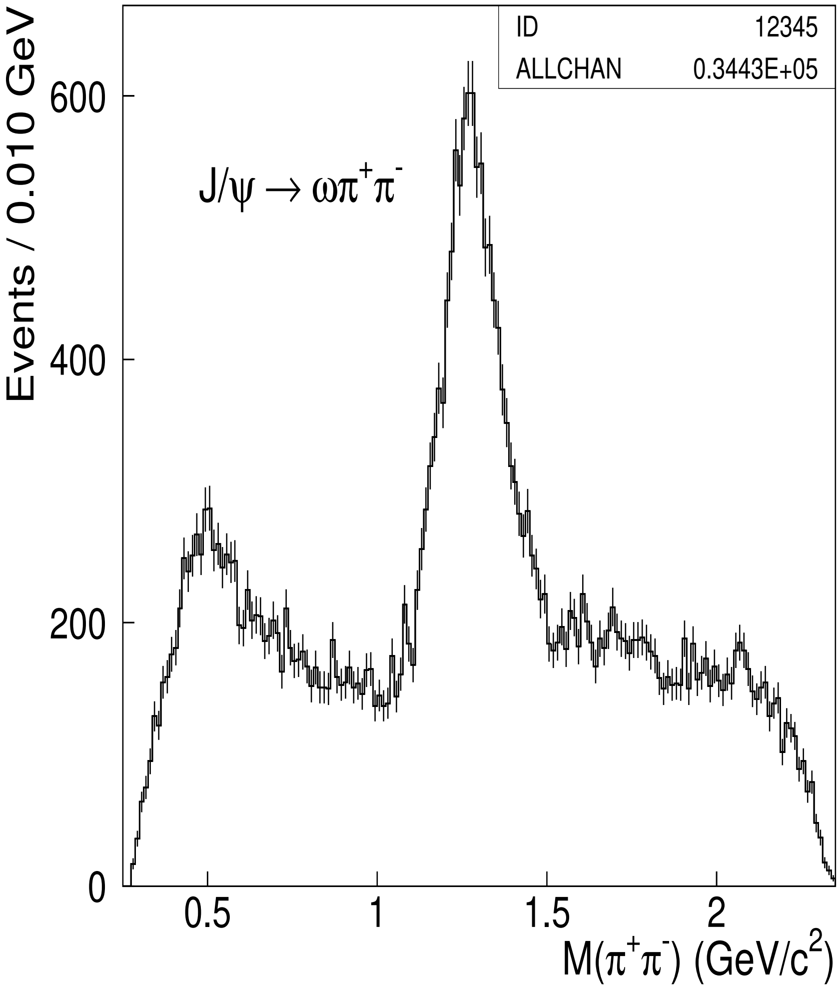
$$Br(J/\psi \to \omega K\overline{K}) = (1.96 \pm 0.11) \times 10^{-3}$$

PDG value:

$$M_\omega = 781.94 \pm 0.12 \ MeV$$

$$\Gamma_\omega = 8.41 \pm 0.09 \ MeV$$

$$Br(J/\psi \to \omega K\overline{K}) = (1.9 \pm 0.4) \times 10^{-3}$$



Invariant mass spectrum of $\pi^+\pi^-\pi^0$

3. $J/\psi \to \phi\pi^+\pi^-$

$$M_\phi = 1019.5 \pm 0.1 \ MeV$$

$$\Gamma_\phi = 4.3 \pm 0.4 \ MeV$$

$$Br(J/\psi \to \phi\pi^+\pi^-) = (7.62 \pm 0.36) \times 10^{-4}$$

PDG value:

$$M_\phi = 1019.413 \pm 0.008 \ MeV$$

$$\Gamma_\phi = 4.43 \pm 0.05 \ MeV$$

$$Br(J/\psi \to \phi\pi^+\pi^-) = (8.0 \pm 1.2) \times 10^{-4}$$

4. $J/\psi \to \gamma K_s^0 K_s^0$

$$Br(J/\psi \to \gamma f_2'(1525)) = (4.36 \pm 0.59) \times 10^{-4}$$

PDG value:

$$Br(J/\psi \to \gamma f_2'(1525)) = (4.7^{+0.7}_{-0.5}) \times 10^{-4}$$

5. $J/\psi \to p\pi^- \bar{n}$

$$Br(J/\psi \to p\pi^- \bar{n}) = (2.00 \pm 0.04) \times 10^{-3}$$

PDG value:

$$Br(J/\psi \to p\pi^- \bar{n}) = (2.00 \pm 0.10) \times 10^{-3}$$

6. $J/\psi \to p\bar{p}\pi^0$

$$M_{\pi^0} = 135.4 \pm 0.2 MeV$$
$$Br(J/\psi \to p\bar{p}\pi^0) = (0.89 \pm 0.01) \times 10^{-3}$$

PDG value:

$$M_{\pi^0} = 134.9764 \pm 0.0006 MeV$$
$$Br(J/\psi \to p\bar{p}\pi^0) = (1.09 \pm 0.09) \times 10^{-3}$$

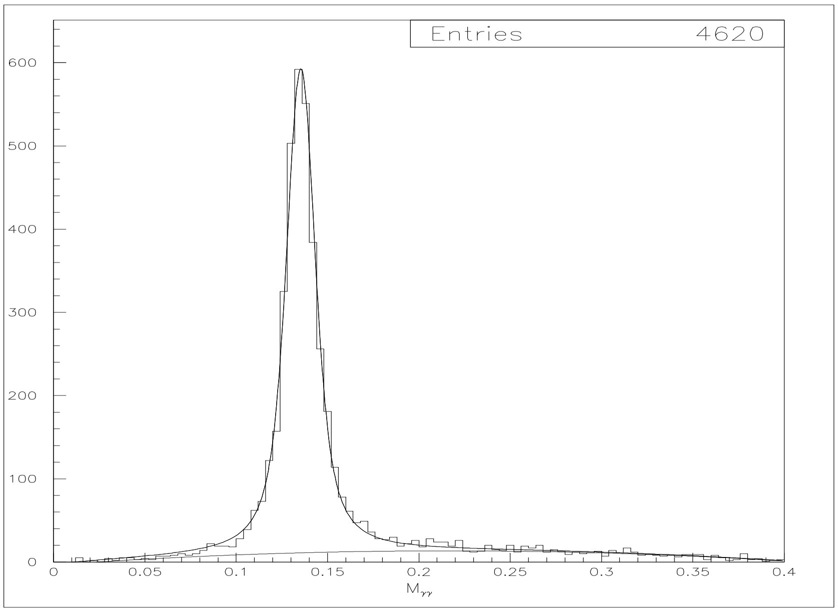
7. $J/\psi \to p\bar{p}\eta$

$$M_{\eta} = 547.1 \pm 0.4 MeV$$
$$Br(J/\psi \to p\bar{p}\eta) = (1.27 \pm 0.03) \times 10^{-3}$$

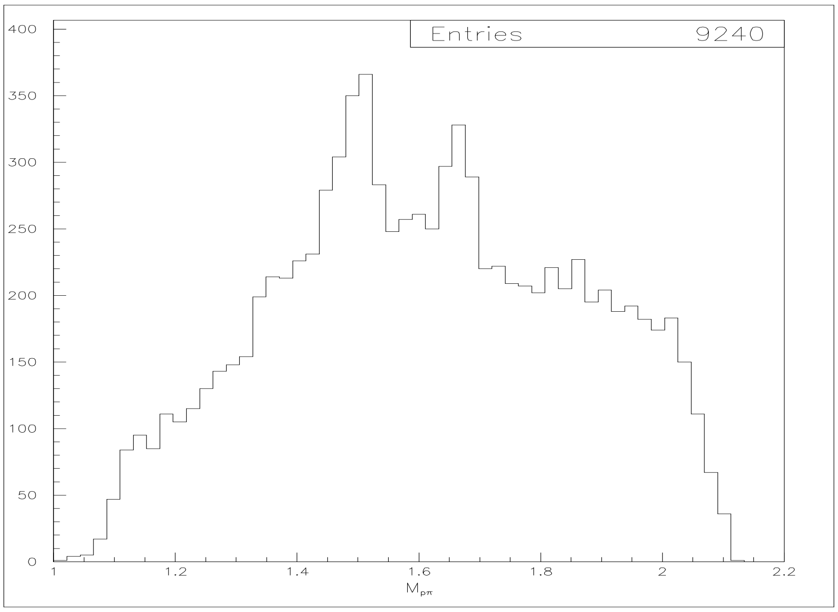
PDG value:

$$M_{\eta} = 547.30 \pm 0.12 MeV$$
$$Br(J/\psi \to p\bar{p}\eta) = (2.09 \pm 0.18) \times 10^{-3}$$

$J/\psi \to p\bar{p}\pi^0$

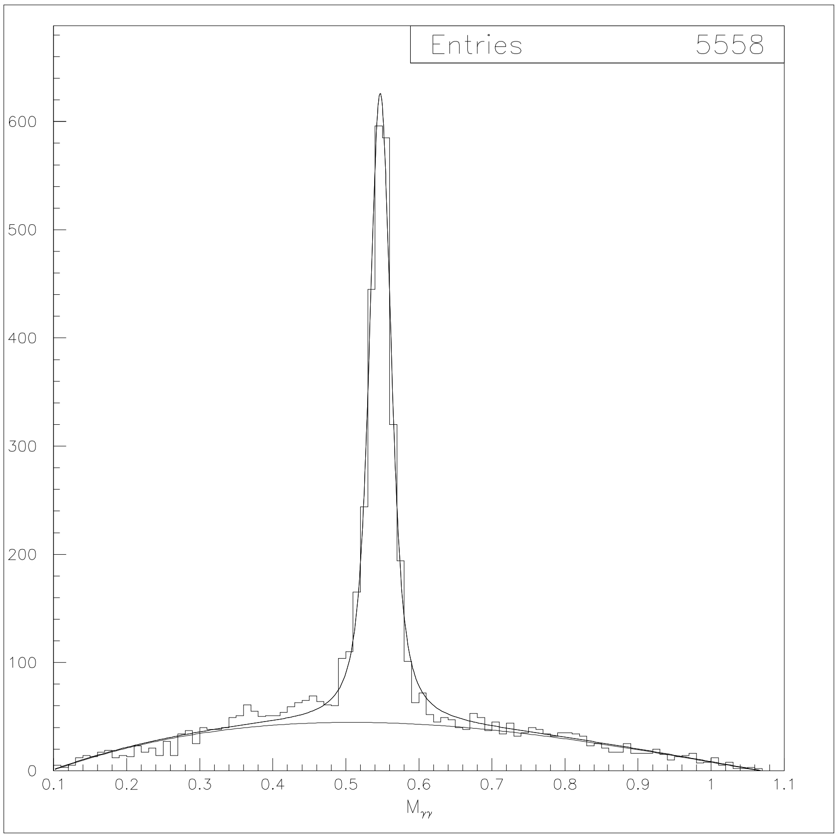


Invariant mass of $\gamma\gamma$ (π^0).



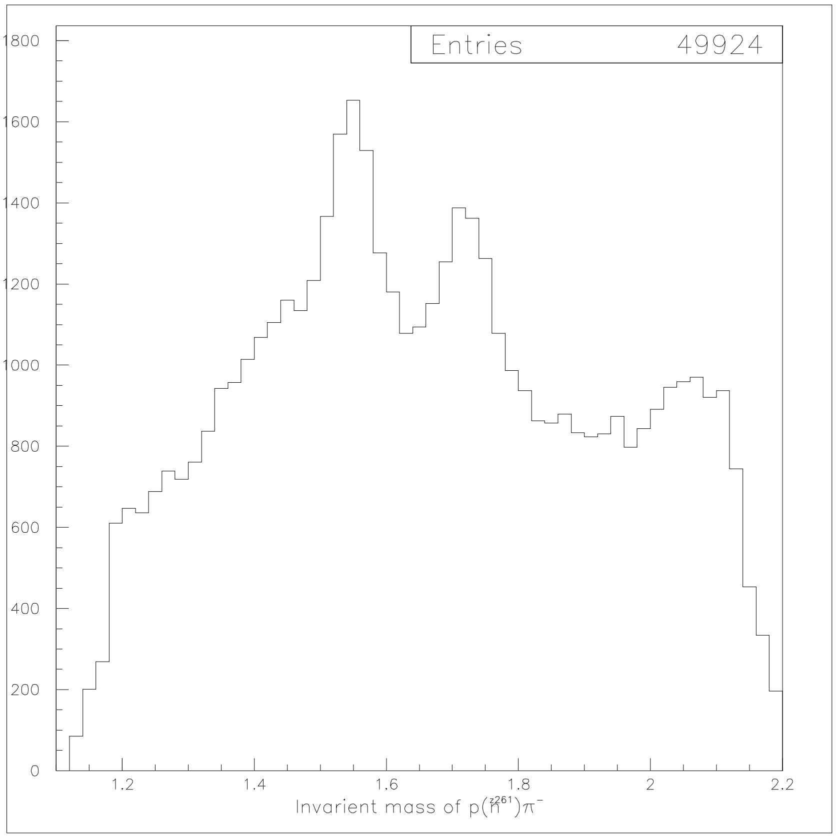
Invariant mass of πp

$J/\psi \to p\bar{p}\eta$



Invariant mass of $\gamma\gamma$ (η).

$J/\psi \to p\pi^-\bar{n}$



Invariant mass of πp(n).