$X(3872)$

$$I^G(J^P) = ?^?(?^?)$$

OMITTED FROM SUMMARY TABLE

Seen by CHOI 03 in $B \to K\pi^+\pi^- J/\psi(1S)$ decays as a narrow peak in the invariant mass distribution of the $\pi^+\pi^- J/\psi(1S)$ final state, but not seen in the $\gamma\chi_{c1}$ final state of these decays. Possibly absent in the invariant mass spectrum of the final state $\pi^+\pi^- J/\psi(1S)$ in e^+e^- collisions. Interpretation as a 1^{--} charmonium state not favored.

Quantum numbers are not established.

$X(3872)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
3872.0±0.6±0.5	36	CHOI	03	BELL	$B \to K\pi^+\pi^- J/\psi$

$X(3872)$ WIDTH

VALUE (MeV)	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<2.3	90	36	CHOI	03	BELL	$B \to K\pi^+\pi^- J/\psi$

$X(3872)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	e^+e^-	
Γ_2	$\pi^+\pi^- J/\psi(1S)$	seen
Γ_3	$\gamma\chi_{c1}$	

$X(3872)$ PARTIAL WIDTHS

$\Gamma(e^+e^-)$ $\hfill \Gamma_1$

VALUE (keV)	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.28	90	[1] YUAN	04	RVUE	$e^+e^- \to \pi^+\pi^- J/\psi$

[1] Using BAI 98E data on $e^+e^- \to \pi^+\pi^-\ell^+\ell^-$. Assuming that $\Gamma(\pi^+\pi^- J/\psi)$ of $X(3872)$ is the same as that of $\psi(2S)$ (85.4 keV).

$X(3872)$ $\Gamma(i)\Gamma(e^+e^-)/\Gamma(\text{total})$

$\Gamma(e^+e^-) \times \Gamma(\pi^+\pi^- J/\psi(1S))/\Gamma_{\text{total}}$ $\hfill \Gamma_1\Gamma_2/\Gamma$

VALUE (eV)	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<10	90	[2] YUAN	04	RVUE	$e^+e^- \to \pi^+\pi^- J/\psi$

[2] Using BAI 98E data on $e^+e^- \to \pi^+\pi^-\ell^+\ell^-$. From theoretical calculation of the production cross section and using $B(J/\psi \to \mu^+\mu^-) = (5.88 \pm 0.10)\%$.

X(3872) BRANCHING RATIOS

$\Gamma(\gamma\chi_{c1})/\Gamma(\pi^+\pi^- J/\psi(1S))$ $\hspace{4cm}$ Γ_3/Γ_2

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.89	90	CHOI 03	BELL	$B \to K\pi^+\pi^- J/\psi$

X(3872) REFERENCES

YUAN	04	PL B579 74	C.Z. Yuan *et al.*	
CHOI	03	PRL 91 262001	S.-K. Choi *et al.*	(BELLE Collab.)
BAI	98E	PR D57 3854	J.Z. Bai *et al.*	(BES Collab.)

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