$X(4260)$

$I^G(J^{PC}) = ?^?(1^{--})$

Seen in radiative return from e^+e^- collisions at $\sqrt{s}$ = 9.4–10.58 GeV by AUBERT,B 05I and HE 06B and in e^+e^- collisions at $\sqrt{s} \approx$ 4.26 GeV by COAN 06. Possibly seen by AUBERT 06 in $B^- \rightarrow K^-\pi^+\pi^- J/\psi$. Interpretation as due to two interfering resonances not excluded. Proposed as non-$c\overline{c}$ candidate.

$X(4260)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{4264^{+10}_{-12}}$ **OUR AVERAGE**	Error includes scale factor of 1.3.				
$4284^{+17}_{-16}\pm4$	13.6	HE	06B	CLEO	9.4–10.6 $e^+e^- \rightarrow \gamma\pi^+\pi^- J/\psi$
$4259\pm\ 8^{+2}_{-6}$	125	[1] AUBERT,B	05I	BABR	10.58 $e^+e^- \rightarrow \gamma\pi^+\pi^- J/\psi$

[1] From a single-resonance fit. Two interfering resonances, one with close mass and a width of 50 MeV and another narrow at 4330 MeV, are not excluded.

$X(4260)$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{83^{+20}_{-17}}$ **OUR AVERAGE**					
$73^{+39}_{-25}\pm5$	13.6	HE	06B	CLEO	9.4–10.6 $e^+e^- \rightarrow \gamma\pi^+\pi^- J/\psi$
$88\pm23^{+6}_{-4}$	125	[2] AUBERT,B	05I	BABR	10.58 $e^+e^- \rightarrow \gamma\pi^+\pi^- J/\psi$

[2] From a single-resonance fit. Two interfering resonances, one with close mass and a width of 50 MeV and another narrow at 4330 MeV, are not excluded.

$X(4260)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	e^+e^-	
Γ_2	$J/\psi\pi^+\pi^-$	seen
Γ_3	$J/\psi\pi^0\pi^0$	[a] seen
Γ_4	$J/\psi K^+K^-$	[a] seen
Γ_5	$J/\psi\eta$	[a] not seen
Γ_6	$J/\psi\pi^0$	[a] not seen
Γ_7	$J/\psi\eta'$	[a] not seen
Γ_8	$J/\psi\pi^+\pi^-\pi^0$	[a] not seen
Γ_9	$J/\psi\eta\eta$	[a] not seen
Γ_{10}	$\psi(2S)\pi^+\pi^-$	[a] not seen

Γ_{11}	$\psi(2S)\eta$	[a] not seen
Γ_{12}	$\chi_{c0}\omega$	[a] not seen
Γ_{13}	$\chi_{c1}\gamma$	[a] not seen
Γ_{14}	$\chi_{c2}\gamma$	[a] not seen
Γ_{15}	$\chi_{c1}\pi^+\pi^-\pi^0$	[a] not seen
Γ_{16}	$\chi_{c2}\pi^+\pi^-\pi^0$	[a] not seen
Γ_{17}	$\phi\pi^+\pi^-$	[a] not seen
Γ_{18}	$p\overline{p}$	

[a] See COAN 06 for details.

$X(4260)$ $\Gamma(i)\Gamma(e^+e^-)/\Gamma(\text{total})$

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

VALUE (eV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
5.9±1.2 OUR AVERAGE					
$8.9^{+3.9}_{-3.1}\pm1.8$	8.1	HE	06B	CLEO	9.4–10.6 $e^+e^- \rightarrow \gamma\pi^+\pi^- J/\psi$
$5.5\pm1.0^{+0.8}_{-0.7}$	125	[3] AUBERT,B	05I	BABR	10.58 $e^+e^- \rightarrow \gamma\pi^+\pi^- J/\psi$

$\Gamma(\phi\pi^+\pi^-) \times \Gamma(e^+e^-)/\Gamma_{\text{total}}$ — $\Gamma_{17}\Gamma_1/\Gamma$

VALUE (eV)	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
<0.4	90	AUBERT,BE	06D	BABR	10.6 $e^+e^- \rightarrow K^+K^-\pi^+\pi^-\gamma$

[3] From a single-resonance fit. Two interfering resonances, one with close mass and a width of 50 MeV and another narrow at 4330 MeV, are not excluded.

$X(4260)$ BRANCHING RATIOS

$\Gamma(p\overline{p})/\Gamma(J/\psi\pi^+\pi^-)$ — Γ_{18}/Γ_2

VALUE	*CL%*	*DOCUMENT ID*		*COMMENT*
<0.13	90	[4] AUBERT	06B	$e^+e^- \rightarrow p\overline{p}\gamma$

[4] Using 4259 ± 10 MeV for the mass and 88 ± 24 MeV for the width of $X(4260)$.

$X(4260)$ REFERENCES

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