$X(4360)$

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

OMITTED FROM SUMMARY TABLE

Seen in radiative return from $e^+ e^-$ collisions at $\sqrt{s} = 9.54$–10.58 GeV by AUBERT 07S and WANG 07D. See also the review under the $X(3872)$ particle listings. (See the index for the page number.)

$X(4360)$ MASS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
4361± 9±9	[1] WANG	07D	BELL	10.58 $e^+ e^- \to \gamma \pi^+ \pi^- \psi(2S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$4355^{+\ 9}_{-10} \pm 9$	[2] LIU	08H	RVUE	10.58 $e^+ e^- \to \psi(2S) \pi^+ \pi^- \gamma$
4324 ± 24	[3] AUBERT	07S	BABR	10.58 $e^+ e^- \to \gamma \pi^+ \pi^- \psi(2S)$

[1] From a two-resonance fit.
[2] From a combined fit of AUBERT 07S and WANG 07D data with two resonances.
[3] From a single-resonance fit. Systematic errors not estimated.

$X(4360)$ WIDTH

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
74±15±10	[4] WANG	07D	BELL	10.58 $e^+ e^- \to \gamma \pi^+ \pi^- \psi(2S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$103^{+17}_{-15} \pm 11$	[5] LIU	08H	RVUE	10.58 $e^+ e^- \to \psi(2S) \pi^+ \pi^- \gamma$
172 ± 33	[6] AUBERT	07S	BABR	10.58 $e^+ e^- \to \gamma \pi^+ \pi^- \psi(2S)$

[4] From a two-resonance fit.
[5] From a combined fit of AUBERT 07S and WANG 07D data with two resonances.
[6] From a single-resonance fit. Systematic errors not estimated.

$X(4360)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$e^+ e^-$	
Γ_2	$\psi(2S) \pi^+ \pi^-$	seen
Γ_3	$D^0 D^{*-} \pi^+$	

$X(4360)$ $\Gamma(i)\Gamma(e^+ e^-)/\Gamma(\text{total})$

$\Gamma(\psi(2S) \pi^+ \pi^-) \times \Gamma(e^+ e^-)/\Gamma_{\text{total}}$ $\qquad\qquad\qquad$ $\Gamma_2 \Gamma_1/\Gamma$

VALUE (eV)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$11.1^{+1.3}_{-1.2}$	[7] LIU	08H	RVUE	10.58 $e^+ e^- \to \psi(2S) \pi^+ \pi^- \gamma$
12.3 ± 1.2	[8] LIU	08H	RVUE	10.58 $e^+ e^- \to \psi(2S) \pi^+ \pi^- \gamma$
$10.4 \pm 1.7 \pm 1.5$	[9] WANG	07D	BELL	10.58 $e^+ e^- \to \gamma \pi^+ \pi^- \psi(2S)$
$11.8 \pm 1.8 \pm 1.4$	[10] WANG	07D	BELL	10.58 $e^+ e^- \to \gamma \pi^+ \pi^- \psi(2S)$

[7] Solution I in a combined fit of AUBERT 07S and WANG 07D data with two resonances.
[8] Solution II in a combined fit of AUBERT 07S and WANG 07D data with two resonances.
[9] Solution I of two equivalent solutions in a fit using two interfering resonances.
[10] Solution II of two equivalent solutions in a fit using two interfering resonances.

X(4360) BRANCHING RATIOS

$\Gamma(D^0 D^{*-}\pi^+)/\Gamma(\psi(2S)\pi^+\pi^-)$ $\quad\quad\quad\quad\quad\quad\quad \Gamma_3/\Gamma_2$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<8	90	PAKHLOVA	09	BELL	$e^+e^- \to X(4360) \to$ $D^0 D^{*-}\pi^+$

$\Gamma(D^0 D^{*-}\pi^+)/\Gamma_{total} \times \Gamma(e^+e^-)/\Gamma_{total}$ $\quad\quad\quad \Gamma_3/\Gamma \times \Gamma_1/\Gamma$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.72 × 10^{-6}	90	[11] PAKHLOVA	09	BELL	$e^+e^- \to X(4360) \to$ $D^0 D^{*-}\pi^+$

[11] Using $4355^{+9}_{-10} \pm 9$ MeV for the mass of *X*(4360).

X(4360) REFERENCES

PAKHLOVA	09	PR D80 091101R	G. Pakhlova *et al.*	(BELLE Collab.)
LIU	08H	PR D78 014032	Z.Q. Liu, X.S. Qin, C.Z. Yuan	
AUBERT	07S	PRL 98 212001	B. Aubert *et al.*	(BABAR Collab.)
WANG	07D	PRL 99 142002	X.L. Wang *et al.*	(BELLE Collab.)