$X(3940)$

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

OMITTED FROM SUMMARY TABLE

Reported by ABE 07, observed in $e^+e^- \to J/\psi X$.

$X(3940)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
3942 ± 9 OUR AVERAGE					
$3945^{+28}_{-17}{}^{+37}_{-28}$	1.6k	[1] AAIJ	24AB	LHCB	$B^+ \to D^{*\pm} D^{\mp} K^+$
$3942^{+7}_{-6} \pm 6$	52	PAKHLOV	08	BELL	$e^+e^- \to J/\psi X$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$3943 \pm 6 \pm 6$	25	[2] ABE	07	BELL	$e^+e^- \to J/\psi X$
3936 ± 14	266	[3] ABE	07	BELL	$e^+e^- \to J/\psi(c\overline{c})$

[1] From a simultaneous amplitude analysis of $B^+ \to D^{*+} D^- K^+$, $B^+ \to D^{*-} D^+ K^+$ and their c.c.
[2] From a fit to $D^{*+} D^-$ and $D^{*0} \overline{D}{}^0$ events.
[3] From the inclusive fit. Not independent of the exclusive measurement by ABE 07.

$X(3940)$ WIDTH

VALUE (MeV)	*CL%*	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
43^{+28}_{-18} OUR AVERAGE Error includes scale factor of 1.1.						
$130^{+92}_{-49}{}^{+101}_{-70}$		1.6k	[1] AAIJ	24AB	LHCB	$B^+ \to D^{*\pm} D^{\mp} K^+$
$37^{+26}_{-15} \pm 8$		52	PAKHLOV	08	BELL	$e^+e^- \to J/\psi X$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
< 52	90	25	ABE	07	BELL	$e^+e^- \to J/\psi X$

[1] From a simultaneous amplitude analysis of $B^+ \to D^{*+} D^- K^+$, $B^+ \to D^{*-} D^+ K^+$ and their c.c.

$X(3940)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$D\overline{D}{}^* +$ c.c.	seen
Γ_2	$D\overline{D}$	not seen
Γ_3	$J/\psi\omega$	not seen

X(3940) BRANCHING RATIOS

$\Gamma(D\overline{D}^* + \text{c.c.})/\Gamma_{\text{total}}$ Γ_1/Γ

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •						
>0.45	90	25	[1,2] ABE	07	BELL	$e^+e^- \to J/\psi X$

[1] For $X(3940)$ decaying to final states with more than two tracks.
[2] PAKHLOV 08 finds that the inclusive peak near 3940 MeV/c^2 may consist of several states.

$\Gamma(D\overline{D})/\Gamma_{\text{total}}$ Γ_2/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.41	90	[1,2] ABE	07	BELL	$e^+e^- \to J/\psi X$

[1] For $X(3940)$ decaying to final states with more than two tracks.
[2] PAKHLOV 08 finds that the inclusive peak near 3940 MeV/c^2 may consist of several states.

$\Gamma(J/\psi\omega)/\Gamma_{\text{total}}$ Γ_3/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.26	90	[1,2] ABE	07	BELL	$e^+e^- \to J/\psi X$

[1] For $X(3940)$ decaying to final states with more than two tracks.
[2] PAKHLOV 08 finds that the inclusive peak near 3940 MeV/c^2 may consist of several states.

X(3940) REFERENCES

AAIJ	24AB	PRL 133 131902	R. Aaij *et al.*	(LHCb Collab.)
PAKHLOV	08	PRL 100 202001	P. Pakhlov *et al.*	(BELLE Collab.)
ABE	07	PRL 98 082001	K. Abe *et al.*	(BELLE Collab.)