$X(4140)$

$I^G(J^{PC}) = 0^+(?^{?+})$

OMITTED FROM SUMMARY TABLE

Needs confirmation.

Seen by AALTONEN 09AH in the $B^+ \to X K^+$, $X \to J/\psi\phi$. Not seen by SHEN 10 in $\gamma\gamma \to J/\psi\phi$.

$X(4140)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
4143.0±2.9±1.2	14 ± 5	[1] AALTONEN	09AH	CDF	$B^+ \to J/\psi\phi K^+$

[1] Statistical significance of 3.8 σ.

$X(4140)$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
$\mathbf{11.7^{+8.3}_{-5.0}\pm3.7}$	14 ± 5	[2] AALTONEN	09AH	CDF	$B^+ \to J/\psi\phi K^+$

[2] Statistical significance of 3.8 σ.

$X(4140)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$J/\psi\phi$	seen
Γ_2	$\gamma\gamma$	not seen

$X(4140)$ Γ(i)Γ(γγ)/Γ(total)

$\Gamma(\gamma\gamma) \times \Gamma(J/\psi\phi)/\Gamma_{total}$ — $\Gamma_2\Gamma_1/\Gamma$

VALUE (eV)	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
<41	90	[3] SHEN	10	BELL	10.6 $e^+e^- \to e^+e^- J/\psi\phi$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 6	90	[4] SHEN	10	BELL	10.6 $e^+e^- \to e^+e^- J/\psi\phi$

[3] For $J^P = 0^+$.
[4] For $J^P = 2^+$.

$X(4140)$ BRANCHING RATIOS

$\Gamma(J/\psi\phi)/\Gamma_{total}$ — Γ_1/Γ

VALUE	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	14 ± 5	[5] AALTONEN	09AH	CDF	$B^+ \to J/\psi\phi K^+$

[5] Statistical significance of 3.8 σ.

$\Gamma(\gamma\gamma)/\Gamma_{total}$ — Γ_2/Γ

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
not seen	SHEN	10	BELL	10.6 $e^+e^- \to e^+e^- J/\psi\phi$

X(4140) REFERENCES

SHEN	10	PRL 104 112004	C.P. Shen *et al.*	(BELLE Collab.)
AALTONEN	09AH	PRL 102 242002	T. Aaltonen *et al.*	(CDF Collab.)