

X(4020)[±]

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

OMITTED FROM SUMMARY TABLE

Seen by ABLIKIM 13X in $e^+e^- \rightarrow \pi^+\pi^-h_c$ at c.m. energy from 3.90 to 4.42 GeV as a peak in the invariant mass distribution of the $h_c\pi^\pm$ system. Needs confirmation.

X(4020)[±] MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
4023.9±2.4 OUR AVERAGE				
4026.3±2.6±3.7	0.4k	¹ ABLIKIM	14B BES3	$e^+e^- \rightarrow (D^*\bar{D}^*)^\pm\pi^\mp$
4022.9±0.8±2.7	253	ABLIKIM	13X BES3	$e^+e^- \rightarrow \pi^+\pi^-h_c$

¹Neglecting interference between the X(4020) and non-resonant continuum. Assuming the same origin of the $(D^*\bar{D}^*)^+$ and $h_c\pi^+$ decay modes.

X(4020)[±] WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
10 ±6 OUR AVERAGE				Error includes scale factor of 1.7.
24.8±5.6±7.7	0.4k	¹ ABLIKIM	14B BES3	$e^+e^- \rightarrow (D^*\bar{D}^*)^\pm\pi^\mp$
7.9±2.7±2.6	253	ABLIKIM	13X BES3	$e^+e^- \rightarrow \pi^+\pi^-h_c$

¹Neglecting interference between the X(4020) and non-resonant continuum. Assuming the same origin of the $(D^*\bar{D}^*)^+$ and $h_c\pi^+$ decay modes.

X(4020)[±] DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $h_c\pi^\pm$	seen
Γ_2 $D^*\bar{D}^*$	seen

X(4020)[±] BRANCHING RATIOS

$\Gamma(h_c\pi^\pm)/\Gamma_{\text{total}}$					Γ_1/Γ
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
seen	253	ABLIKIM	13X BES3	$e^+e^- \rightarrow \pi^+\pi^-h_c$	
$\Gamma(D^*\bar{D}^*)/\Gamma_{\text{total}}$					Γ_2/Γ
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
seen	0.4k	¹ ABLIKIM	14B BES3	$e^+e^- \rightarrow (D^*\bar{D}^*)^\pm\pi^\mp$	

¹Neglecting interference between the X(4020) and non-resonant continuum.

X(4020)[±] REFERENCES

ABLIKIM	14B	PRL 112 132001	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	13X	PRL 111 242001	M. Ablikim <i>et al.</i>	(BES III Collab.)