

**$\psi(4390)$** 

$$I^G(J^{PC}) = 0^-(1^{--})$$

$I$  needs confirmation.

OMITTED FROM SUMMARY TABLE  
was  $X(4390)$

This state shows properties different from a conventional  $q\bar{q}$  state.  
A candidate for an exotic structure. See the review on non- $q\bar{q}$  states.

 **$\psi(4390)$  MASS**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$4391.5^{+6.3}_{-6.8} \pm 1.0$	ABLIKIM	17G	BES3 $e^+e^- \rightarrow \pi^+\pi^-h_c$

 **$\psi(4390)$  WIDTH**

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
$139.5^{+16.2}_{-20.6} \pm 0.6$	ABLIKIM	17G	BES3 $e^+e^- \rightarrow \pi^+\pi^-h_c$

 **$\psi(4390)$  DECAY MODES**

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \pi^+\pi^-h_c$	seen
$\Gamma_2 \quad \pi^+\pi^-\psi(3770)$	possibly seen

 **$\psi(4390)$  BRANCHING RATIOS**

$\Gamma(\pi^+\pi^-h_c)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
<b>seen</b>	ABLIKIM	17G	BES3 $e^+e^- \rightarrow \pi^+\pi^-h_c$
$\Gamma(\pi^+\pi^-\psi(3770))/\Gamma_{\text{total}}$	$\Gamma_2/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
<b>possibly seen</b>	<sup>1</sup> ABLIKIM	19AR	BES3 $e^+e^- \rightarrow \pi^+\pi^-D\bar{D}$

<sup>1</sup> Observe  $e^+e^- \rightarrow \pi^+\pi^-\psi(3770)$  at  $\sqrt{s} = 4.26, 4.36, \text{ and } 4.42$  GeV but cannot establish if continuum or resonant.

 **$\psi(4390)$  REFERENCES**

ABLIKIM	19AR	PR D100 032005	M. Ablikim <i>et al.</i>	(BESIII Collab.)
ABLIKIM	17G	PRL 118 092002	M. Ablikim <i>et al.</i>	(BESIII Collab.)