

$\chi_{c2}(2P)$

$$I^{G(J^{PC})} = 0^+(2^{++})$$

 $\chi_{c2}(2P)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
3927.2±2.6 OUR AVERAGE				
3926.7±2.7±1.1	76 ± 17	AUBERT	10G BABR	10.6 $e^+e^- \rightarrow e^+e^- D\bar{D}$
3929 ±5 ±2	64	UEHARA	06 BELL	10.6 $e^+e^- \rightarrow e^+e^- D\bar{D}$

 $\chi_{c2}(2P)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
24 ± 6 OUR AVERAGE				
21.3± 6.8±3.6	76 ± 17	AUBERT	10G BABR	10.6 $e^+e^- \rightarrow e^+e^- D\bar{D}$
29 ±10 ±2	64	UEHARA	06 BELL	10.6 $e^+e^- \rightarrow e^+e^- D\bar{D}$

 $\chi_{c2}(2P)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 $\gamma\gamma$	seen
Γ_2 $K\bar{K}\pi$	
Γ_3 $K^+K^-\pi^+\pi^-\pi^0$	
Γ_4 $D\bar{D}$	seen
Γ_5 D^+D^-	seen
Γ_6 $D^0\bar{D}^0$	seen
Γ_7 $\pi^+\pi^-\eta_c(1S)$	not seen
Γ_8 $K\bar{K}$	not seen

 $\chi_{c2}(2P)$ PARTIAL WIDTHS

———— $\chi_{c2}(2P)$ $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$ ————

$\Gamma(K\bar{K}\pi) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$				$\Gamma_2\Gamma_1/\Gamma$
VALUE (eV)	CL%	DOCUMENT ID	TECN	COMMENT
<2.1	90	DEL-AMO-SA..11M	BABR	$\gamma\gamma \rightarrow K_S^0 K^\pm \pi^\mp$

$\Gamma(K^+K^-\pi^+\pi^-\pi^0) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$				$\Gamma_3\Gamma_1/\Gamma$
VALUE (eV)	CL%	DOCUMENT ID	TECN	COMMENT
<3.4	90	DEL-AMO-SA..11M	BABR	$\gamma\gamma \rightarrow K^+K^-\pi^+\pi^-\pi^0$

$\Gamma(D\bar{D}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$				$\Gamma_4\Gamma_1/\Gamma$
VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
0.21±0.04 OUR AVERAGE				
0.24±0.05±0.04	76 ± 17	AUBERT	10G BABR	10.6 $e^+e^- \rightarrow e^+e^- D\bar{D}$
0.18±0.05±0.03	64	¹ UEHARA	06 BELL	10.6 $e^+e^- \rightarrow e^+e^- D\bar{D}$

¹ Assuming $B(D^+D^-) = 0.89 B(D^0\bar{D}^0)$.

$\Gamma(\pi^+\pi^-\eta_c(1S)) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$					$\Gamma_7\Gamma_1/\Gamma$
<u>VALUE (eV)</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<18	90	LEES	12AE BABR	$e^+e^- \rightarrow e^+e^-\pi^+\pi^-\eta_c$	

$\Gamma(K\bar{K}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$					$\Gamma_8\Gamma_1/\Gamma$
<u>VALUE (eV)</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<0.256	90	UEHARA	13 BELL	$\gamma\gamma \rightarrow K_S^0 K_S^0$	

$\chi_{c2}(2P)$ BRANCHING RATIOS

$\Gamma(D^+D^-)/\Gamma(D^0\bar{D}^0)$					Γ_5/Γ_6
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
0.74±0.43±0.16	64	UEHARA	06 BELL	$10.6 e^+e^- \rightarrow e^+e^-D\bar{D}$	

$\chi_{c2}(2P)$ REFERENCES

UEHARA	13	PTEP 2013 123C01	S. Uehara <i>et al.</i>	(BELLE Collab.)
LEES	12AE	PR D86 092005	J.P. Lees <i>et al.</i>	(BABAR Collab.)
DEL-AMO-SA...	11M	PR D84 012004	P. del Amo Sanchez <i>et al.</i>	(BABAR Collab.)
AUBERT	10G	PR D81 092003	B. Aubert <i>et al.</i>	(BABAR Collab.)
UEHARA	06	PRL 96 082003	S. Uehara <i>et al.</i>	(BELLE Collab.)