

$\chi_{c2}(2P)$

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

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

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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

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

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

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

$\Gamma(D\bar{D}) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$	$\Gamma_4\Gamma_1/\Gamma$			
<u>VALUE (keV)</u> <u>EVTS</u> <u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>				
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.)