

**X(3915)**

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

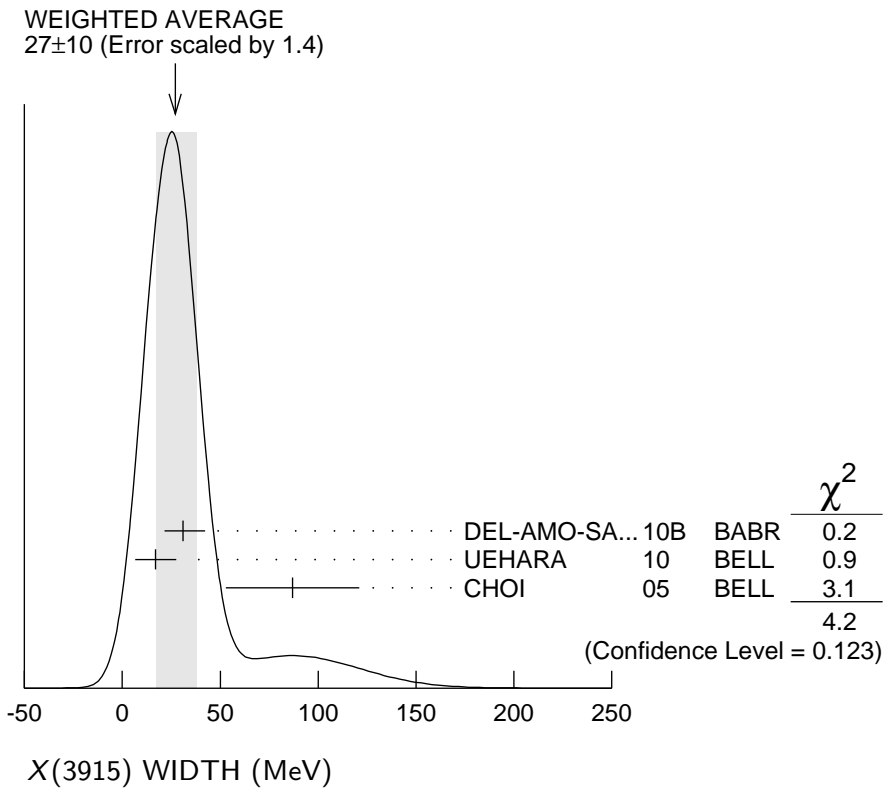
Observed in  $\omega J/\psi$ , thus  $C = +$ . May be the same state as  $\chi_{c2}(2P)$ .**X(3915) MASS**

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>3917.5 ± 2.7 OUR AVERAGE</b>				
$3919.1^{+3.8}_{-3.4} \pm 2.0$		DEL-AMO-SA..10B	BABR	$B \rightarrow \omega J/\psi K$
$3915 \pm 3 \pm 2$	$49 \pm 15$	<sup>1</sup> UEHARA	10	BELL $10.6 e^+ e^- \rightarrow e^+ e^- \omega J/\psi$
$3943 \pm 11 \pm 13$	$58 \pm 11$	<sup>2</sup> CHOI	05	BELL $B \rightarrow \omega J/\psi K$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3914.6^{+3.8}_{-3.4} \pm 2.0$		<sup>2</sup> AUBERT	08W	BABR Superseded by DEL-AMO-SANCHEZ 10B

<sup>1</sup> May be  $\chi_{c2}(2P)$ .<sup>2</sup>  $\omega J/\psi$  threshold enhancement fitted as an S-wave Breit-Wigner resonance.**X(3915) WIDTH**

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>27 ± 10 OUR AVERAGE</b> Error includes scale factor of 1.4. See the ideogram below.				
$31^{+10}_{-8} \pm 5$		DEL-AMO-SA..10B	BABR	$B \rightarrow \omega J/\psi K$
$17 \pm 10 \pm 3$	$49 \pm 15$	<sup>3</sup> UEHARA	10	BELL $10.6 e^+ e^- \rightarrow e^+ e^- \omega J/\psi$
$87 \pm 22 \pm 26$	$58 \pm 11$	<sup>4</sup> CHOI	05	BELL $B \rightarrow \omega J/\psi K$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$34^{+12}_{-8} \pm 5$		<sup>4</sup> AUBERT	08W	BABR Superseded by DEL-AMO-SANCHEZ 10B

<sup>3</sup> May be  $\chi_{c2}(2P)$ .<sup>4</sup>  $\omega J/\psi$  threshold enhancement fitted as an S-wave Breit-Wigner resonance.



### X(3915) DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $\omega J/\psi$	seen
$\Gamma_2$ $\bar{D}^*0 D^0$	
$\Gamma_3$ $\gamma\gamma$	seen

### X(3915) $\Gamma(i)\Gamma(\gamma\gamma)/\Gamma(\text{total})$

$\Gamma(\omega J/\psi) \times \Gamma(\gamma\gamma)/\Gamma_{\text{total}}$						$\Gamma_1\Gamma_3/\Gamma$
VALUE (eV)	EVTS	DOCUMENT ID	TECN	COMMENT		
$18 \pm 5 \pm 2$	$49 \pm 15$	<sup>5,6</sup> UEHARA 10	BELL	10.6 $e^+e^- \rightarrow e^+e^-\omega J/\psi$		
••• We do not use the following data for averages, fits, limits, etc. •••						
$61 \pm 17 \pm 8$	$49 \pm 15$	<sup>5,7</sup> UEHARA 10	BELL	10.6 $e^+e^- \rightarrow e^+e^-\omega J/\psi$		
<sup>5</sup> May be $\chi_{c2}(2P)$ .						
<sup>6</sup> For $J^P = 2^+$ , helicity-2.						
<sup>7</sup> For $J^P = 0^+$ .						

### X(3915) BRANCHING RATIOS

$\Gamma(\gamma\gamma)/\Gamma_{\text{total}}$				$\Gamma_3/\Gamma$
VALUE	DOCUMENT ID	TECN	COMMENT	
seen	<sup>8</sup> UEHARA 10	BELL	10.6 $e^+e^- \rightarrow e^+e^-\omega J/\psi$	
<sup>8</sup> May be $\chi_{c2}(2P)$ .				

$\Gamma(\omega J/\psi)/\Gamma(\bar{D}^{*0} D^0)$					$\Gamma_1/\Gamma_2$
VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
>0.71	90	<sup>9</sup> AUSHEV	10	BELL	$B \rightarrow \bar{D}^{*0} D^0 K$

<sup>9</sup> By combining the upper limit  $B(B \rightarrow X(3915) K) \times B(X(3915) \rightarrow D^{*0} \bar{D}^0) < 0.67 \times 10^{-4}$  from AUSHEV 10 with the average of CHOI 05 and AUBERT 08W measurements  $B(B \rightarrow X(3915) K) \times B(X(3915) \rightarrow \omega J/\psi) = (0.51 \pm 0.11) \times 10^{-4}$ .

$\Gamma(\omega J/\psi)/\Gamma_{\text{total}}$					$\Gamma_1/\Gamma$
VALUE		DOCUMENT ID	TECN	COMMENT	
seen		<sup>10</sup> DEL-AMO-SA...10B	BABR	$B \rightarrow \omega J/\psi K$	
seen		<sup>11</sup> CHOI	05	BELL	$B \rightarrow \omega J/\psi K$

<sup>10</sup> DEL-AMO-SANCHEZ 10B reports  $B(B^\pm \rightarrow X(3915) K^\pm) \times B(X(3915) \rightarrow J/\psi \omega) = (3.0^{+0.7+0.5}_{-0.6-0.3}) \times 10^{-5}$  and  $B(B^0 \rightarrow X(3915) K^0) \times B(X(3915) \rightarrow J/\psi \omega) = (2.1 \pm 0.9 \pm 0.3) \times 10^{-5}$ .

<sup>11</sup> CHOI 05 reports  $B(B \rightarrow X(3915) K) \times B(X(3915) \rightarrow J/\psi \omega) = (7.1 \pm 1.3 \pm 3.1) \times 10^{-5}$ .

### X(3915) REFERENCES

AUSHEV	10	PR D81 031103R	T. Aushev <i>et al.</i>	(BELLE Collab.)
DEL-AMO-SA...	10B	PR D82 011101R	P. del Amo Sanchez <i>et al.</i>	(BABAR Collab.)
UEHARA	10	PRL 104 092001	S. Uehara <i>et al.</i>	(BELLE Collab.)
AUBERT	08W	PRL 101 082001	B. Aubert <i>et al.</i>	(BABAR Collab.)
CHOI	05	PRL 94 182002	S.-K. Choi <i>et al.</i>	(BELLE Collab.)