

$\Xi_c(2790)$ 

$I(J^P) = \frac{1}{2}(\frac{1}{2}^-)$  Status: \*\*\*

Seen in both  $\Xi_c \pi$  and  $\Xi'_c \pi$  decays. The simplest assignment, based on the mass, width, and decay mode, is that this belongs in the same SU(4) multiplet as the  $\Lambda(1405)$  and the  $\Lambda_c(2595)^+$ , but the spin and parity have not been measured.

 $\Xi_c(2790)$  MASSES

The masses are obtained from the mass-difference measurements that follow.

 $\Xi_c(2790)^+$  MASS

VALUE (MeV) DOCUMENT ID  
**2792.0 ± 0.5 OUR FIT** Error includes scale factor of 1.2.

 $\Xi_c(2790)^0$  MASS

VALUE (MeV) DOCUMENT ID  
**2792.8 ± 1.2 OUR FIT** Error includes scale factor of 2.9.

 $\Xi_c(2790) - \Xi_c$  MASS DIFFERENCES $m_{\Xi_c(2790)^+} - m_{\Xi_c^0}$ 

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>321.1 ± 0.4 OUR FIT</b>				Error includes scale factor of 1.2.
<b>320.7 ± 0.2 ± 0.4</b>	2231	YELTON	16	BELL $e^+ e^-$ , $\Upsilon$ regions • • • We do not use the following data for averages, fits, limits, etc. • • •
318.2 ± 1.3 ± 2.9	18	CSORNA	01	CLEO $e^+ e^- \approx \Upsilon(4S)$

 $m_{\Xi_c(2790)^0} - m_{\Xi_c^+}$ 

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>324.9 ± 1.2 OUR FIT</b>				Error includes scale factor of 3.7.
<b>323.8 ± 0.2 ± 0.4</b>	1241	YELTON	16	BELL $e^+ e^-$ , $\Upsilon$ regions • • • We do not use the following data for averages, fits, limits, etc. • • •
324.0 ± 1.3 ± 3.0	14	CSORNA	01	CLEO $e^+ e^- \approx \Upsilon(4S)$

 $\Xi_c(2790) - \Xi'_c$  MASS DIFFERENCES $m_{\Xi_c(2790)^+} - m_{\Xi_c^{\prime 0}}$ 

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>213.10 ± 0.26 OUR FIT</b>			Error includes scale factor of 1.2.
<b>213.2 ± 0.2 ± 0.1</b>	YELTON	16	BELL 2231 and 11,560 evts

$m_{\Xi_c(2790)^0} - m_{\Xi_c^+}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>215.4±0.8 OUR FIT</b> Error includes scale factor of 3.7.			
<b>215.7±0.2±0.1</b>	YELTON	16	BELL 1241 and 7055 evts

$\Xi_c(2790)^+ - \Xi_c(2790)^0$  MASS DIFFERENCE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>-0.9±1.3 OUR FIT</b> Error includes scale factor of 2.5.			
••• We do not use the following data for averages, fits, limits, etc. •••			
-3.3±0.4±0.5	YELTON	16	BELL 2231 and 1241 evts

$\Xi_c(2790)$  WIDTHS

$\Xi_c(2790)^+$  WIDTH

VALUE (MeV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<b>8.9±0.6±0.8</b>		2231	YELTON	16	BELL $e^+e^-$ , $\Upsilon$ regions
••• We do not use the following data for averages, fits, limits, etc. •••					
<15	90		CSORNA	01	CLEO $e^+e^- \approx \Upsilon(4S)$

$\Xi_c(2790)^0$  WIDTH

VALUE (MeV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<b>10.0±0.7±0.8</b>		1241	YELTON	16	BELL $e^+e^-$ , $\Upsilon$ regions
••• We do not use the following data for averages, fits, limits, etc. •••					
<12	90		CSORNA	01	CLEO $e^+e^- \approx \Upsilon(4S)$

$\Xi_c(2790)$  DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \Xi_c \pi$	seen
$\Gamma_2 \quad \Xi_c' \pi$	seen

$\Xi_c(2790)$  REFERENCES

YELTON	16	PR D94 052011	J. Yelton <i>et al.</i>	(BELLE Collab.)
CSORNA	01	PRL 86 4243	S.E. Csorna <i>et al.</i>	(CLEO Collab.)