$\Xi_c(2790)$

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

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

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

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

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
324.9±1.2 OUR FIT Error includes scale factor of 3.7.					
323.8±0.2±0.4	1241	YELTON	16	BELL	e^+e^-, Υ 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

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

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

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

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

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

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
−0.9±1.3 OUR FIT 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
8.9±0.6±0.8		2231	YELTON	16	BELL	e^+e^-, Υ 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
10.0±0.7±0.8		1241	YELTON	16	BELL	e^+e^-, Υ 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 (Γ_i/Γ)
Γ_1	$\Xi_c \pi$	seen
Γ_2	$\Xi_c' \pi$	seen

$\Xi_c(2790)$ REFERENCES

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