NODE=S058

$\Xi_c'^{+}$

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

NODE=S058

The $\Xi_c'^{+}$ and $\Xi_c'^{0}$ presumably complete the SU(3) sextet whose other members are the Σ_c^{++}, Σ_c^{+}, Σ_c^{0}, and Ω_c^{0}: see Fig. 5 in the "Quark Model" review. The quantum numbers given above come from this presumption but have not been measured.

$\Xi_c'^{+}$ MASS

NODE=S058M

The mass is obtained from the mass-difference measurement that follows.

NODE=S058M

NODE=S058M

VALUE (MeV)	*DOCUMENT ID*
2578.3±0.4 OUR FIT	
[2578.2 ± 0.5 MeV OUR 2025 FIT Scale factor = 1.1]	

NEW

$\Xi_c'^{+} - \Xi_c^{+}$ MASS DIFFERENCE

NODE=S058D

NODE=S058D

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
110.5±0.4 OUR FIT					
110.5±0.1±0.4	7k	YELTON	16	BELL	$e^+ e^-$, Υ regions
• • • We do not use the following data for averages, fits, limits, etc. • • •					
107.8±1.7±2.5	25	JESSOP	99	CLE2	$e^+ e^- \approx \Upsilon(4S)$

$\Xi_c'^{+} - \Xi_c'^{0}$ MASS DIFFERENCE

NODE=S058DM0

NODE=S058DM0

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
−0.5±0.6 OUR FIT				
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.8±0.1±0.5	YELTON	16	BELL	7055 and 11,560 evts

$\Xi_c'^{+}$ DECAY MODES

NODE=S058215;NODE=S058

The $\Xi_c'^{+}$–Ξ_c^{+} mass difference is too small for any strong decay to occur.

NODE=S058

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Xi_c^{+}\gamma$	seen

DESIG=1;OUR EST;→ UNCHECKED ←

$\Xi_c'^{+}$ REFERENCES

NODE=S058

YELTON	16	PR D94 052011	J. Yelton *et al.*	(BELLE Collab.)
JESSOP	99	PRL 82 492	C.P. Jessop *et al.*	(CLEO Collab.)

REFID=57432
REFID=46550