$\Xi_c'^+$

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

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

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

VALUE (MeV)	*DOCUMENT ID*
2578.2±0.5 OUR FIT	Error includes scale factor of 1.1.

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

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

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

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

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

$\Xi_c'^+$ REFERENCES

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