

$\Xi_c(2815)$

$$I(J^P) = \frac{1}{2}(\frac{3}{2}^-) \text{ Status: } ***$$

A narrow peak seen in the $\Xi_c \pi \pi$ mass spectrum. The simplest assignment is that this belongs to the same SU(4) multiplet as the $\Lambda(1520)$ and the $\Lambda_c(2625)$, but the spin and parity have not been measured.

$\Xi_c(2815)$ MASSES

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

$\Xi_c(2815)^+$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2816.6 ± 0.9 OUR FIT				
2817.0 ± 1.2^{+0.7}_{-0.8}	73 ± 10	LESLIAK	08 BELL	$e^+ e^- \approx \Upsilon(4S)$

$\Xi_c(2815)^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2819.6 ± 1.2 OUR FIT				
2820.4 ± 1.4^{+0.9}_{-1.0}	48 ± 8	LESLIAK	08 BELL	$e^+ e^- \approx \Upsilon(4S)$

$\Xi_c(2815) - \Xi_c$ MASS DIFFERENCES

$m_{\Xi_c(2815)^+} - m_{\Xi_c^+}$

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
348.7 ± 0.9 OUR FIT				
348.6 ± 0.6 ± 1.0	20	ALEXANDER	99B CLE2	$e^+ e^- \approx \Upsilon(4S)$

$m_{\Xi_c(2815)^0} - m_{\Xi_c^0}$

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
348.8 ± 1.2 OUR FIT				
347.2 ± 0.7 ± 2.0	9	ALEXANDER	99B CLE2	$e^+ e^- \approx \Upsilon(4S)$

$\Xi_c(2815)^+ - \Xi_c(2815)^0$ MASS DIFFERENCE

$m_{\Xi_c(2815)^+} - m_{\Xi_c(2815)^0}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
-3.0 ± 1.3 OUR FIT			
-3.4 ± 1.9 ± 0.9	LESLIAK	08 BELL	73 & 48 events

$\Xi_c(2815)$ WIDTHS

$\Xi_c(2815)^+$ WIDTH

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
<3.5	90	ALEXANDER	99B CLE2	$e^+ e^- \approx \Upsilon(4S)$

$\Xi_c(2815)^0$ WIDTH

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
<6.5	90	ALEXANDER 99B	CLE2	$e^+e^- \approx \Upsilon(4S)$

$\Xi_c(2815)$ DECAY MODES

The $\Xi_c \pi \pi$ modes are consistent with being entirely via $\Xi_c(2645)\pi$.

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Xi_c^+ \pi^+ \pi^-$	seen
$\Gamma_2 \quad \Xi_c^0 \pi^+ \pi^-$	seen

$\Xi_c(2815)$ REFERENCES

LESIK	08	PL B665 9	T. Lesiak <i>et al.</i>	(BELLE Collab.)
ALEXANDER	99B	PRL 83 3390	J.P. Alexander <i>et al.</i>	(CLEO Collab.)