

# $\Xi_c(2815)$

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

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

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>2816.6 ± 0.9 OUR FIT</b>				
<b>2817.0 ± 1.2<sup>+0.7</sup><sub>-0.8</sub></b>	73 ± 10	LESLIAK	08 BELL	$e^+ e^- \approx \Upsilon(4S)$

### $\Xi_c(2815)^0$ MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>2819.6 ± 1.2 OUR FIT</b>				
<b>2820.4 ± 1.4<sup>+0.9</sup><sub>-1.0</sub></b>	48 ± 8	LESLIAK	08 BELL	$e^+ e^- \approx \Upsilon(4S)$

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

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

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>348.8 ± 0.9 OUR FIT</b>				
<b>348.6 ± 0.6 ± 1.0</b>	20	ALEXANDER	99B CLE2	$e^+ e^- \approx \Upsilon(4S)$

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

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>348.7 ± 1.2 OUR FIT</b>				
<b>347.2 ± 0.7 ± 2.0</b>	9	ALEXANDER	99B CLE2	$e^+ e^- \approx \Upsilon(4S)$

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

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

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>-3.1 ± 1.3 OUR FIT</b>			
<b>-3.4 ± 1.9 ± 0.9</b>	LESLIAK	08 BELL	73 & 48 events

## $\Xi_c(2815)$ WIDTHS

### $\Xi_c(2815)^+$ WIDTH

<u>VALUE (MeV)</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>&lt;3.5</b>	90	ALEXANDER	99B CLE2	$e^+ e^- \approx \Upsilon(4S)$

### $\Xi_c(2815)^0$ WIDTH

<u>VALUE (MeV)</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>&lt;6.5</b>	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 ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \Xi_c^+ \pi^+ \pi^-$	seen
$\Gamma_2 \quad \Xi_c^0 \pi^+ \pi^-$	seen

### $\Xi_c(2815)$ REFERENCES

LESIAK 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.)