

$\Lambda_c(2880)^+$

$I(J^P) = 0(?^?)$  Status: \*\*\*

A narrow peak seen in  $\Lambda_c^+ \pi^+ \pi^-$  and in  $pD^0$ . It is not seen in  $pD^+$ , and therefore it is probably a  $\Lambda_c^+$  and not a  $\Sigma_c$ . ARTUSO 01 guesses, based on the narrow width, that it might be a  $J^P = 1/2^-$   $\Lambda_{c0}^+$ , where the subscript 0 indicates that the two light quarks are in a  $J^P = 0^-$  state.

### $\Lambda_c(2880)^+$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>2881.9±0.5 OUR FIT</b>				
<b>2881.9±0.1±0.5</b>	2.8k±190	AUBERT	07 BABR	in $pD^0$

### $\Lambda_c(2880)^+ - \Lambda_c^+$ MASS DIFFERENCE

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>595.5±0.5 OUR FIT</b>				
<b>596 ±1 ±2</b>	350 <sup>+57</sup> <sub>-55</sub>	ARTUSO	01 CLE2	in $\Lambda_c^+ \pi^+ \pi^-$

### $\Lambda_c(2880)^+$ WIDTH

VALUE (MeV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<b>5.8±1.5±1.1</b>		2.8k±190	AUBERT	07 BABR	in $pD^0$
••• We do not use the following data for averages, fits, limits, etc. •••					
<8	90		ARTUSO	01 CLEO	in $\Lambda_c^+ \pi^+ \pi^-$

### $\Lambda_c(2880)^+$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $\Lambda_c^+ \pi^+ \pi^-$	seen
$\Gamma_2$ $\Sigma_c(2455)\pi$	seen
$\Gamma_3$ $\Sigma_c(2520)\pi$	not seen
$\Gamma_4$ $pD^0$	seen

### $\Lambda_c(2880)^+$ BRANCHING RATIOS

$\Gamma(\Sigma_c(2455)\pi)/\Gamma(\Lambda_c^+ \pi^+ \pi^-)$					$\Gamma_2/\Gamma_1$
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
<b>0.31±0.06±0.03</b>	96	ARTUSO	01 CLE2	$e^+ e^- \approx \mathcal{R}(4S)$	

$\Gamma(\Sigma_c(2520)\pi)/\Gamma(\Lambda_c^+\pi^+\pi^-)$					$\Gamma_3/\Gamma_1$
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b>&lt;0.11</b>	90	ARTUSO	01	CLE2	$e^+e^- \approx \Upsilon(4S)$

### $\Lambda_c(2880)^+$ REFERENCES

AUBERT	07	PRL 98 012001	B. Aubert <i>et al.</i>	(BABAR Collab.)
ARTUSO	01	PRL 86 4479	M. Artuso <i>et al.</i>	(CLEO Collab.)