

$\Lambda_c(2880)^+$

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

OMITTED FROM SUMMARY TABLE

A narrow, statistically significant peak (350^{+57}_{-55} events) seen in $\Lambda_c^+ \pi^+ \pi^-$. However, nothing is known about its quantum numbers—it could even be a Σ_c^+ instead of a Λ_c^+ —and it occurs in a mass region where several states are expected. ARTUSO 01 guesses, based on the narrow width, that it might be a $J^P = 1/2^-$ Λ_{c0}^+ , where the subscript 0 indicates that the two light quarks are in a $J^P = 0^-$ state.

$\Lambda_c(2880)^+$ MASS

The mass is obtained from the $\Lambda_c(2880)^+ - \Lambda_c^+$ mass-difference measurement below.

VALUE (MeV)	DOCUMENT ID
2880.9 ± 2.3 OUR FIT	

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

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
596.0 ± 2.2 OUR FIT				
596 ± 1 ± 2	350	ARTUSO	01 CLE2	$e^+ e^- \approx \gamma(4S)$

$\Lambda_c(2880)^+$ WIDTH

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
< 8	90	ARTUSO	01 CLE2	$e^+ e^- \approx \gamma(4S)$

$\Lambda_c(2880)^+$ DECAY MODES

Mode	Fraction (Γ_j/Γ)
$\Gamma_1 \quad \Lambda_c^+ \pi^+ \pi^-$	seen
$\Gamma_2 \quad \Sigma_c(2455)\pi$	seen
$\Gamma_3 \quad \Sigma_c(2520)\pi$	not seen

$\Lambda_c(2880)^+$ BRANCHING RATIOS

$\Gamma(\Sigma_c(2455)\pi)/\Gamma(\Lambda_c^+ \pi^+ \pi^-)$				Γ_2/Γ_1
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.31 ± 0.06 ± 0.03	96	ARTUSO	01 CLE2	$e^+ e^- \approx \gamma(4S)$

