$\Lambda_c(2880)^+$

$I(J^P) = ?(?^?)$ 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*
2882.5±2.2 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	$e^+ e^- \approx \Upsilon(4S)$

$\Lambda_c(2880)^+$ WIDTH

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

$\Lambda_c(2880)^+$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Lambda_c^+ \pi^+ \pi^-$	seen
Γ_2	$\Sigma_c(2455)\pi$	seen
Γ_3	$\Sigma_c(2520)\pi$	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	$e^+ e^- \approx \Upsilon(4S)$

$\Gamma(\Sigma_c(2520)\pi)/\Gamma(\Lambda_c^+\pi^+\pi^-)$ Γ_3/Γ_1

VALUE	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
<0.11	90	ARTUSO	01	CLE2	$e^+e^-\approx \Upsilon(4S)$

$\Lambda_c(2880)^+$ REFERENCES

ARTUSO 01 PRL 86 4479 M. Artuso *et al.* (CLEO Collab.)