

$\Lambda_c(2940)^+$ $I(J^P) = 0(\frac{3}{2}^-)$ Status: ***

A narrow peak seen in pD^0 and in $\Lambda_c^+ \pi^+ \pi^-$. It is not seen in pD^+ , and therefore it is a Λ_c^+ and not a Σ_c . $J^P = 3/2^-$ is favored, but not certain.

 $\Lambda_c(2940)^+$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2939.6$^{+1.3}_{-1.5}$ OUR AVERAGE				
2944.8 $^{+3.5}_{-2.5} \pm 0.4^{+0.1}_{-4.6}$		¹ AAIJ	17S	LHCB in $\Lambda_b^0 \rightarrow D^0 p \pi^-$
2939.8 $\pm 1.3 \pm 1.0$	2.2k	AUBERT	07	BABR in pD^0
2938.0 $\pm 1.3^{+2.0}_{-4.0}$	220	MIZUK	07	BELLE in $\Sigma_c(2455)^{0,++} \pi^\pm$

¹ The third AAIJ 17S uncertainty comes from modeling the resonant shape of the nearby $\Lambda_c(2880)^+$ and the background (non-resonant) amplitudes.

 $\Lambda_c(2940)^+$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
20$^{+6}_{-5}$ OUR AVERAGE				
27.7 $^{+8.2}_{-6.0} \pm 0.9^{+5.2}_{-10.4}$		² AAIJ	17S	LHCB in $\Lambda_b^0 \rightarrow D^0 p \pi^-$
17.5 $\pm 5.2 \pm 5.9$	2.2k	AUBERT	07	BABR in pD^0
13 $^{+8}_{-5} \pm 27_7$	220	MIZUK	07	BELLE in $\Sigma_c(2455)^{0,++} \pi^\pm$

² The third AAIJ 17S uncertainty comes from modeling the resonant shape of the nearby $\Lambda_c(2880)^+$ and the background (non-resonant) amplitudes.

 $\Lambda_c(2940)^+$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
Γ_1 pD^0	seen
Γ_2 $\Sigma_c(2455)^{0,++} \pi^\pm$	seen

 $\Lambda_c(2940)^+$ REFERENCES

AAIJ	17S	JHEP 1705 030	R. Aaij <i>et al.</i>	(LHCb Collab.) JP
AUBERT	07	PRL 98 012001	B. Aubert <i>et al.</i>	(BABAR Collab.)
MIZUK	07	PRL 98 262001	R. Mizuk <i>et al.</i>	(BELLE Collab.)