$\Xi_c(2930)$

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

OMITTED FROM SUMMARY TABLE

$\Xi_c(2930)$ MASSES

$\Xi_c(2930)^+$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2942.3±4.4±1.5	21	LI	18D	BELL	e^+e^- at $\Upsilon(4S)$

$\Xi_c(2930)^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2938.55±0.30 OUR AVERAGE					
2938.5 ±0.9 ± 2.3	1.5k	[1] AAIJ	23X	LHCB	$B^- \to \Lambda_c^+ \overline{\Lambda}_c^- K^-$
2938.55±0.21± 0.22	10.4k	[2] AAIJ	20X	LHCB	pp at 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2928.9 ±3.0 $^{+\ 0.9}_{-12.0}$	61	LI	18A	BELL	e^+e^- at $\Upsilon(4S)$
2931 ±3 ± 5	34	AUBERT	08H	BABR	$\Upsilon(4S) \to B\overline{B}$

[1] AAIJ 23X studies the $\Lambda_c^+ K^-$ system within $B^- \to \Lambda_c^+ \overline{\Lambda}_c^- K^-$ decays.

[2] AAIJ 20X uses a prompt $\Lambda_c^+ K^-$ sample and reports $2938.55 \pm 0.21 \pm 0.17 \pm 0.14$ MeV where the last uncertainty is due to the Λ_c^+ mass. Observes that the broader resonance at 2930 MeV seen in $B^- \to K^- \Lambda_c^+ \overline{\Lambda}_c^-$ by LI 18A and AUBERT 08H resolves into two narrower peaks at approximately 2939 MeV and 2923 MeV.

$\Xi_c(2930)^+ - \Xi_c(2930)^0$ MASS DIFFERENCE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
13.4±5.3$^{+\ 1.7}_{-12.1}$	21	[1] LI	18D	BELL	e^+e^- at $\Upsilon(4S)$

[1] This LI 18D value is not independent of the mass measurements.

$\Xi_c(2930)$ WIDTHS

$\Xi_c(2930)^+$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
14.8±8.8±2.5	21	LI	18D	BELL	e^+e^- at $\Upsilon(4S)$

$\Xi_c(2930)^0$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
10.2±0.8± 1.1	10.4k	[1] AAIJ	20X	LHCB	pp at 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
11.0±1.9± 7.5	1.5k	[2] AAIJ	23X	LHCB	$B^- \to \Lambda_c^+ \overline{\Lambda}_c^- K^-$
19.5±8.4$^{+\ 5.9}_{-\ 7.9}$	61	LI	18A	BELL	e^+e^- at $\Upsilon(4S)$
36 ±7 ±11	34	AUBERT	08H	BABR	$\Upsilon(4S) \to B\overline{B}$

[1] AAIJ 20X uses a prompt $\Lambda_c^+ K^-$ sample and observes that the broader resonance at 2930 MeV seen in $B^- \to K^- \Lambda_c^+ \overline{\Lambda}_c^-$ by LI 18A and AUBERT 08H resolves into two narrower peaks at approximately 2939 MeV and 2923 MeV.

[2] AAIJ 23X studies the $\Lambda_c^+ K^-$ system within $B^- \to \Lambda_c^+ \overline{\Lambda}_c^- K^-$ decays.

$\Xi_c(2930)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Lambda_c^+ K^-$	seen
Γ_2	$\Lambda_c^+ K_S^0$	seen

$\Xi_c(2930)$ BRANCHING RATIOS

$\Gamma(\Lambda_c^+ K^-)/\Gamma_{\text{total}}$ Γ_1/Γ

VALUE	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	1.5k	AAIJ	23X	LHCB	$B^- \to \Lambda_c^+ \overline{\Lambda}_c^- K^-$
seen	10.4k	AAIJ	20X	LHCB	pp at 13 TeV
seen	61	LI	18A	BELL	Significance 5.1 std
seen	34	AUBERT	08H	BABR	$e^+ e^-$ at $\Upsilon(4S)$

$\Gamma(\Lambda_c^+ K_S^0)/\Gamma_{\text{total}}$ Γ_2/Γ

VALUE	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	21	LI	18D	BELL	Significance 4.1 std

$\Xi_c(2930)$ REFERENCES

AAIJ	23X	PR D108 012020	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	20X	PRL 124 222001	R. Aaij *et al.*	(LHCb Collab.)
LI	18A	EPJ C78 252	Y.B. Li *et al.*	(BELLE Collab.)
LI	18D	EPJ C78 928	Y.B. Li *et al.*	(BELLE Collab.)
AUBERT	08H	PR D77 031101	B. Aubert *et al.*	(BABAR Collab.)