

$\Xi_c(2923)$ $I(J^P) = ?(??)$ Status: **

OMITTED FROM SUMMARY TABLE

 $\Xi_c(2923)$ MASSES $\Xi_c(2923)^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2923.2 ± 0.4 OUR AVERAGE		Error includes scale factor of 1.2.		
2924.5 ± 0.4 ± 1.1	1.5k	¹ AAIJ	23X LHCb	$B^- \rightarrow \Lambda_c^+ \bar{\Lambda}_c^- K^-$
2923.04 ± 0.25 ± 0.24	5.4k	² AAIJ	20X LHCb	pp at 13 TeV

¹ AAIJ 23X studies the $\Lambda_c^+ K^-$ system within $B^- \rightarrow \Lambda_c^+ \bar{\Lambda}_c^- K^-$ decays.² AAIJ 20X uses a prompt $\Lambda_c^+ K^-$ sample, and reports $2923.04 \pm 0.25 \pm 0.20 \pm 0.14$ MeV where the last uncertainty is due to the Λ_c^+ mass. $\Xi_c(2923)^+$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2922.8 ± 0.3 ± 0.5 ± 0.2	0.74k	¹ AAIJ	25AI LHCb	pp at 13 TeV

¹ The third uncertainty is due to the Ξ_c^+ mass. $\Xi_c(2923)$ WIDTHS $\Xi_c(2923)^0$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
5.8 ± 1.3 OUR AVERAGE				
4.8 ± 0.9 ± 1.5	1.5k	¹ AAIJ	23X LHCb	$B^- \rightarrow \Lambda_c^+ \bar{\Lambda}_c^- K^-$
7.1 ± 0.8 ± 1.8	5.4k	² AAIJ	20X LHCb	pp at 13 TeV

¹ AAIJ 23X studies the $\Lambda_c^+ K^-$ system within $B^- \rightarrow \Lambda_c^+ \bar{\Lambda}_c^- K^-$ decays.² AAIJ 20X uses a prompt $\Lambda_c^+ K^-$ sample $\Xi_c(2923)^+$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
5.3 ± 0.9 ± 1.4	0.74k	AAIJ	25AI LHCb	pp at 13 TeV

 $\Xi_c(2923)$ DECAY MODES

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

$\Xi_c(2923)$ BRANCHING RATIOS

$\Gamma(\Lambda_c^+ K^-)/\Gamma_{\text{total}}$					Γ_1/Γ
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
seen	1.5k	AAIJ	23X	LHCB	$B^- \rightarrow \Lambda_c^+ \bar{\Lambda}_c^- K^-$
seen	5.4k	AAIJ	20X	LHCB	pp at 13 TeV

$\Gamma(\Xi_c^+ \pi^+ \pi^-)/\Gamma_{\text{total}}$					Γ_2/Γ
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
seen	0.74k	¹ AAIJ	25AI	LHCB	pp at 13 TeV

¹AAIJ 25AI observes the $\Xi_c(2923)^+$ state with over 10σ significance.

$\Xi_c(2923)$ REFERENCES

AAIJ	25AI	PRL 135 161901	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	23X	PR D108 012020	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	20X	PRL 124 222001	R. Aaij <i>et al.</i>	(LHCb Collab.)