Ξ_c^0

$I(J^P) = \frac{1}{2}(\frac{1}{2}^+)$ Status: ****

Neither J or P has actually been measured.

Ξ_c^0 MASS

The fit uses the Ξ_c^0 and Ξ_c^+ mass and mass-difference measurements.

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2470.50±0.25 OUR FIT Error includes scale factor of 1.1.					
$2470.99^{+0.30}_{-0.50}$ OUR AVERAGE					
2470.85±0.24±0.55	3.4k	AALTONEN	14B	CDF	$p\overline{p}$ at 1.96 TeV
2471.0 ±0.3 $^{+0.2}_{-1.4}$	8.6k	[1] LESIAK	05	BELL	e^+e^-, $\Upsilon(4S)$
2470.0 ±2.8 ±2.6	85	FRABETTI	98B	E687	γ Be, $\overline{E}_\gamma = 220$ GeV
2469 ±2 ±3	9	HENDERSON	92B	CLEO	$\Omega^- K^+$
2472.1 ±2.7 ±1.6	54	ALBRECHT	90F	ARG	e^+e^- at $\Upsilon(4S)$
2473.3 ±1.9 ±1.2	4	BARLAG	90	ACCM	π^- (K^-) Cu 230 GeV
2472 ±3 ±4	19	ALAM	89	CLEO	e^+e^- 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2462.1 ±3.1 ±1.4	42	[2] FRABETTI	93C	E687	See FRABETTI 98B
2471 ±3 ±4	14	AVERY	89	CLEO	See ALAM 89

[1] The systematic error was (wrongly) given the other way round in LESIAK 05.
[2] The FRABETTI 93C mass is well below the other measurements.

$\Xi_c^0 - \Xi_c^+$ MASS DIFFERENCE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2.72±0.23 OUR FIT Error includes scale factor of 1.1.					
2.91±0.26 OUR AVERAGE					
2.85±0.30±0.04	5.1/3.4k	AALTONEN	14B	CDF	$p\overline{p}$ at 1.96 TeV
2.9 ±0.5		LESIAK	05	BELL	e^+e^-, $\Upsilon(4S)$
7.0 ±4.5 ±2.2		ALBRECHT	90F	ARG	e^+e^- at $\Upsilon(4S)$
6.8 ±3.3 ±0.5		BARLAG	90	ACCM	π^- (K^-) Cu 230 GeV
5 ±4 ±1		ALAM	89	CLEO	$\Xi_c^0 \to \Xi^-\pi^+$, $\Xi_c^+ \to \Xi^-\pi^+\pi^+$

Ξ_c^0 MEAN LIFE

VALUE (10^{-15} s)	EVTS	DOCUMENT ID		TECN	COMMENT
150.0± 1.7 OUR AVERAGE Error includes scale factor of 1.1.					
149.2± 2.5±0.9±0.4	8.3k	[1] AAIJ	25AM	LHCB	$\Xi_b^- \to \Xi_c^0\pi^-$, $\Xi_c^0 \to pK^-K^-\pi^+$
148.0± 2.3±2.2		[2] AAIJ	22Y	LHCB	$pp \to \Xi_c^0 + X$, $\Xi_c^0 \to pK^-K^-\pi^+$
153.4± 2.4±0.7	22k	[3,4] AAIJ	19AG	LHCB	$\Xi_b^- \to \Xi_c^0\mu^-\overline{\nu}_\mu + X$, $\Xi_c^0 \to pK^-K^-\pi^+$

118	$^{+14}_{-12}$	± 5	110	LINK	02H	FOCS	γ nucleus, $\approx$ 180 GeV
101	$^{+25}_{-17}$	± 5	42	FRABETTI	93C	E687	γ Be, $\overline{E}_\gamma$ = 220 GeV
82	$^{+59}_{-30}$		4	BARLAG	90	ACCM	π^- (K^-) Cu 230 GeV

[1] Uses $B^- \rightarrow D^0 \pi^-$, $D^0 \rightarrow K^- K^+ \pi^- \pi^+$ as a normalization mode to minimize the uncertainties associated with the decay time acceptance. The third uncertainty is due to the uncertainty of the D^0 lifetime, which is taken to be 410.3 $\pm$ 1.0 fs.

[2] Measured in Ξ_c^0 produced promptly in pp collisions, using $D^0 \rightarrow K^+ K^- \pi^+ \pi^-$ as normalisation mode. AAIJ 22Y reports this lifetime value as $(148.0 \pm 2.3 \pm 2.2 \pm 0.2) \times 10^{-15}$ s where the last uncertainty is due to the uncertainty on the D^0 lifetime value from PDG 20 average, τ_{D^0} = (410.1 $\pm$ 1.5) fs.

[3] AAIJ 19AG reports [Ξ_c^0 MEAN LIFE] / [$D^\pm$ MEAN LIFE] = 0.1485 $\pm$ 0.0017 $\pm$ 0.0016 which we multiply by our best (shown rounded) value $D^\pm$ MEAN LIFE = $(1.033 \pm 0.005) \times 10^{-12}$ s. Our first error is their experiment's error and our second error is the systematic error from using our best (shown rounded) value.

[4] Measured in Ξ_c^0 produced in semileptonic Ξ_b^- decays.

Ξ_c^0 DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Confidence level
	Cabibbo-favored decays		
Γ_1	$p K^- K^- \pi^+$	$(4.9 \pm 1.0) \times 10^{-3}$	
Γ_2	$p K^- \overline{K}^*(892)^0$, $\overline{K}^{*0} \rightarrow K^- \pi^+$	$(2.0 \pm 0.6) \times 10^{-3}$	
Γ_3	$p K^- K^- \pi^+$ (no $\overline{K}^{*0}$)	$(3.0 \pm 0.8) \times 10^{-3}$	
Γ_4	ΛK_S^0	$(3.2 \pm 0.6) \times 10^{-3}$	
Γ_5	$\Lambda K^- \pi^+$	(1.45$\pm$0.28) %	
Γ_6	$\Lambda \overline{K}^*(892)^0$	$(2.6 \pm 0.6) \times 10^{-3}$	
Γ_7	$\Lambda \overline{K}^0 \pi^+ \pi^-$	seen	
Γ_8	$\Lambda K^- \pi^+ \pi^+ \pi^-$	seen	
Γ_9	$\Sigma^0 K_S^0$	$(5.4 \pm 1.4) \times 10^{-4}$	
Γ_{10}	$\Sigma^+ K^-$	$(1.8 \pm 0.4) \times 10^{-3}$	
Γ_{11}	$\Sigma^0 \overline{K}^*(892)^0$	$(9.9 \pm 1.9) \times 10^{-3}$	
Γ_{12}	$\Sigma^+ K^*(892)^-$	$(4.9 \pm 1.3) \times 10^{-3}$	
Γ_{13}	$\Xi^- \pi^+$	(1.43$\pm$0.27) %	
Γ_{14}	$\Xi^- \pi^+ \pi^+ \pi^-$	(4.8 $\pm$2.3) %	
Γ_{15}	$\Xi^0 \pi^0$	$(6.9 \pm 1.4) \times 10^{-3}$	
Γ_{16}	$\Xi^0 \eta$	$(1.6 \pm 0.4) \times 10^{-3}$	
Γ_{17}	$\Xi^0 \eta'$	$(1.1 \pm 0.4) \times 10^{-3}$	
Γ_{18}	$\Xi^0 K^+ K^-$		
Γ_{19}	$\Xi^0 \phi$, $\phi \rightarrow K^+ K^-$	$(5.2 \pm 1.2) \times 10^{-4}$	
Γ_{20}	$\Xi^0 K^+ K^-$ nonresonant	$(5.6 \pm 1.2) \times 10^{-4}$	
Γ_{21}	$\Omega^- K^+$	$(4.2 \pm 0.9) \times 10^{-3}$	
Γ_{22}	$\Xi^- e^+ \nu_e$	(1.06$\pm$0.21) %	

Γ_{23}	$\Xi^- \mu^+ \nu_\mu$	(1.01 ± 0.21) %		
Γ_{24}	$\Xi^0 \gamma$	< 1.7	$\times 10^{-4}$	90%
Γ_{25}	$\Xi^0 \mu^+ \mu^-$	< 6	$\times 10^{-5}$	90%
Γ_{26}	$\Xi^0 e^+ e^-$	< 1.0	$\times 10^{-4}$	90%

Cabibbo-suppressed decays

Γ_{27}	$\Lambda_c^+ \pi^-$	$(5.5 \pm 1.1) \times 10^{-3}$
Γ_{28}	$\Xi^- K^+$	$(3.9 \pm 1.1) \times 10^{-4}$
Γ_{29}	$\Lambda K^+ K^-$ (no ϕ)	$(4.1 \pm 1.3) \times 10^{-4}$
Γ_{30}	$\Lambda \phi$	$(4.9 \pm 1.3) \times 10^{-4}$

FIT INFORMATION

An overall fit to 7 branching ratios uses 8 measurements to determine 4 parameters. The overall fit has a $\chi^2 = 1.4$ for 4 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle \delta x_i \delta x_j \rangle / (\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i / \Gamma_{\text{total}}$.

x_5	64		
x_{13}	86	74	
x_{27}	64	55	75
	x_1	x_5	x_{13}

Ξ_c^0 BRANCHING RATIOS

Cabibbo-favored (S = −2) decays

$\Gamma(pK^-K^-\pi^+)/\Gamma_{\text{total}}$ — **Γ_1/Γ**

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT
0.49±0.10 OUR FIT					
0.58±0.23±0.05	17 ± 5	LI	19A	BELL	e^+e^- at $\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen		AAIJ	25AM	LHCB	pp at 7, 8, 13 TeV

$\Gamma(pK^-K^-\pi^+)/\Gamma(\Xi^-\pi^+)$ — **Γ_1/Γ_{13}**

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.339±0.035 OUR FIT					
0.34 ±0.04 OUR AVERAGE					
0.33 ±0.03 ±0.03	1908 ± 62	LESIAK	05	BELL	e^+e^-, $\Upsilon(4S)$
0.35 ±0.06 ±0.03	148 ± 18	DANKO	04	CLEO	e^+e^-

$\Gamma(pK^-\overline{K}^*(892)^0, \overline{K}^{*0} \to K^-\pi^+)/\Gamma(\Xi^-\pi^+)$ — **Γ_2/Γ_{13}**

VALUE	DOCUMENT ID		TECN	COMMENT
0.14±0.03±0.01	DANKO	04	CLEO	e^+e^-

$\Gamma(pK^-K^-\pi^+(\text{no}\,\overline{K}^{*0}))/\Gamma(\Xi^-\pi^+)$ — Γ_3/Γ_{13}

VALUE	DOCUMENT ID		TECN	COMMENT
0.21±0.04±0.02	DANKO	04	CLEO	e^+e^-

$\Gamma(\Lambda K^0_S)/\Gamma(\Xi^-\pi^+)$ — Γ_4/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.225±0.013 OUR AVERAGE					
0.229±0.008±0.012	5.6k	LI	21F	BELL	e^+e^- at Υ(nS)
0.21 ±0.02 ±0.02	465 ± 37	LESIAK	05	BELL	e^+e^-, $\Upsilon(4S)$

$\Gamma(\Lambda K^-\pi^+)/\Gamma_{total}$ — Γ_5/Γ

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT
1.45±0.28 OUR FIT					
1.17±0.37±0.09	24 ± 6	LI	19A	BELL	e^+e^- at $\Upsilon(4S)$

$\Gamma(\Lambda K^-\pi^+)/\Gamma(\Xi^-\pi^+)$ — Γ_5/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.02±0.14 OUR FIT	Error includes scale factor of 1.1.				
1.07±0.12±0.07	2979 ± 211	LESIAK	05	BELL	e^+e^-, $\Upsilon(4S)$

$\Gamma(\Lambda\overline{K}^*(892)^0)/\Gamma(\Xi^-\pi^+)$ — Γ_6/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.18±0.02±0.01	4k	JIA	21	BELL	e^+e^- at Υ(nS)

$\Gamma(\Lambda\overline{K}^0\pi^+\pi^-)/\Gamma_{total}$ — Γ_7/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	FRABETTI	98B	E687	γ Be, $\overline{E}_\gamma$ = 220 GeV

$\Gamma(\Lambda K^-\pi^+\pi^+\pi^-)/\Gamma_{total}$ — Γ_8/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	FRABETTI	98B	E687	γ Be, $\overline{E}_\gamma$ = 220 GeV

$\Gamma(\Sigma^0 K^0_S)/\Gamma(\Xi^-\pi^+)$ — Γ_9/Γ_{13}

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
3.8±0.6±0.4	279	LI	21F	BELL	e^+e^- at Υ(nS)

$\Gamma(\Sigma^+ K^-)/\Gamma(\Xi^-\pi^+)$ — Γ_{10}/Γ_{13}

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
12.3±0.7±1.0	889	LI	21F	BELL	e^+e^- at Υ(nS)

$\Gamma(\Sigma^0\overline{K}^*(892)^0)/\Gamma(\Xi^-\pi^+)$ — Γ_{11}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.69±0.03±0.03	6.3k	JIA	21	BELL	e^+e^- at Υ(nS)

$\Gamma(\Sigma^+ K^*(892)^-)/\Gamma(\Xi^-\pi^+)$ — Γ_{12}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.34±0.06±0.02	373	JIA	21	BELL	e^+e^- at Υ(nS)

$\Gamma(\Xi^- \pi^+)/\Gamma_{total}$ — Γ_{13}/Γ

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT
1.43±0.27 OUR FIT					
1.80±0.50±0.14	45 ± 7	LI	19A	BELL	e^+e^- at $\Upsilon(4S)$

$\Gamma(\Xi^- \pi^+)/\Gamma(\Xi^- \pi^+ \pi^+ \pi^-)$ — Γ_{13}/Γ_{14}

VALUE	DOCUMENT ID		TECN	COMMENT
0.30±0.12±0.05	ALBRECHT	90F	ARG	e^+e^- at $\Upsilon(4S)$

$\Gamma(\Omega^- K^+)/\Gamma(\Xi^- \pi^+)$ — Γ_{21}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.294±0.018±0.016	650	AUBERT,B	05M	BABR	$e^+e^- \approx \Upsilon(4S)$

$\Gamma(\Xi^0 \phi,\ \phi \to K^+ K^-)/\Gamma(\Xi^- \pi^+)$ — Γ_{19}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.036±0.004±0.002	311	[1] MCNEIL	21	BELL	e^+e^- at Υ(nS)

[1] MCNEIL 21 assumes an azimuthally symmetric amplitude model to recover resonant and nonresonant contributions to $\Xi_c^0 \to \Xi^0 K^+ K^-$.

$\Gamma(\Xi^0 \pi^0)/\Gamma(\Xi^- \pi^+)$ — Γ_{15}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.48±0.02±0.03	2.2k	[1] ADACHI	24S	BEL2	e^+e^- at $\sim \Upsilon$(nS)

[1] Analysis of Belle and Belle II data samples.

$\Gamma(\Xi^0 \eta)/\Gamma(\Xi^- \pi^+)$ — Γ_{16}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.11±0.01±0.01	0.14k	[1] ADACHI	24S	BEL2	e^+e^- at $\sim \Upsilon$(nS)

[1] Analysis of Belle and Belle II data samples.

$\Gamma(\Xi^0 \eta')/\Gamma(\Xi^- \pi^+)$ — Γ_{17}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.08±0.02±0.01	31	[1] ADACHI	24S	BEL2	e^+e^- at $\sim \Upsilon$(nS)

[1] Analysis of Belle and Belle II data samples.

$\Gamma(\Xi^0 K^+ K^- \text{nonresonant})/\Gamma(\Xi^- \pi^+)$ — Γ_{20}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.039±0.004±0.002	311	[1] MCNEIL	21	BELL	e^+e^- at Υ(nS)

[1] MCNEIL 21 assumes an azimuthally symmetric amplitude model to recover resonant and nonresonant contributions to $\Xi_c^0 \to \Xi^0 K^+ K^-$.

$\Gamma(\Xi^- e^+ \nu_e)/\Gamma(\Xi^- \pi^+)$ — Γ_{22}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.74 ±0.04 OUR AVERAGE					
0.825±0.094±0.081		ABUALROB	25	ALCE	pp at 13 TeV
0.730±0.021±0.039		[1] LI	21C	BELL	e^+e^- at 10.52, 10.58 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.95 ±0.15 ±0.16		[2] ACHARYA	21A	ALCE	Superseded by ABUALROB 25

3.1	± 1.0	$^{+0.3}_{-0.5}$	54	ALEXANDER	95B	CLE2	$e^+e^- \approx \Upsilon(4S)$
0.96	± 0.43	± 0.18	18	[3] ALBRECHT	93B	ARG	$e^+e^- \approx 10.4$ GeV

[1] LI 21C measures ratio $B(\Xi_c^0 \to \Xi^- e^+ \nu_e)$ / $B(\Xi_c^0 \to \Xi^- \mu^+ \nu_\mu) = 1.03 \pm 0.05 \pm 0.07$.

[2] See erratum to ACHARYA 21A, which corrects the previously reported ratio $1.38 \pm 0.14 \pm 0.22$.

[3] This ALBRECHT 93B value is the average of the ($\Xi^- e^+$ anything)/$\Xi^- \pi^+$ and ($\Xi^- \mu^+$ anything)/$\Xi^- \pi^+$ ratios. Here we average it with the $\Xi^- e^+ \nu_e / \Xi^- \pi^+$ ratio.

$\Gamma(\Xi^- e^+ \nu_e)/\Gamma(\Xi^- \mu^+ \nu_\mu)$ — Γ_{22}/Γ_{23}

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$1.03 \pm 0.05 \pm 0.07$	[1] LI	21C	BELL	e^+e^- at 10.52, 10.58 GeV

[1] LI 21C value is not independent from other quoted measurements.

$\Gamma(\Xi^- \mu^+ \nu_\mu)/\Gamma(\Xi^- \pi^+)$ — Γ_{23}/Γ_{13}

VALUE	DOCUMENT ID		TECN	COMMENT
$0.708 \pm 0.033 \pm 0.056$	[1] LI	21C	BELL	e^+e^- at 10.52, 10.58 GeV

[1] LI 21C measures ratio $B(\Xi_c^0 \to \Xi^- e^+ \nu_e)$ / $B(\Xi_c^0 \to \Xi^- \mu^+ \nu_\mu) = 1.03 \pm 0.05 \pm 0.07$.

$\Gamma(\Xi^0 \gamma)/\Gamma(\Xi^- \pi^+)$ — Γ_{24}/Γ_{13}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-2}$	90	LI	23	BELL	$e^+e^- \to \Upsilon(nS)$

$\Gamma(\Xi^0 \mu^+ \mu^-)/\Gamma(\Xi^- \pi^+)$ — Γ_{25}/Γ_{13}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.3 \times 10^{-3}$	90	CUI	24	BELL	980fb^{-1}, e^+e^- at $\Upsilon(4S)$

$\Gamma(\Xi^0 e^+ e^-)/\Gamma(\Xi^- \pi^+)$ — Γ_{26}/Γ_{13}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.7 \times 10^{-3}$	90	CUI	24	BELL	980fb^{-1}, e^+e^- at $\Upsilon(4S)$

Cabibbo-suppressed decays

$\Gamma(\Lambda_c^+ \pi^-)/\Gamma_{total}$ — Γ_{27}/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
5.5 ± 1.1 OUR FIT					
$5.5 \pm 0.2 \pm 1.8$	6.3k	[1] AAIJ	20AH	LHCB	pp at 13 TeV

[1] AAIJ 20AH extracts $B(\Xi_c^0 \to \Lambda_c^+ \pi^-)$ using two different normalization modes: $\Lambda_c^+ \to pK^-\pi^+$ and $\Xi_c^+ \to pK^-\pi^+$. The mean value of both results, taking their correlations into account, is presented as the final result. The measurement assumes production fraction ratios $f_{\Xi_c^0}/f_{\Lambda_c^+} = (9.7 \pm 0.9 \pm 3.1) \times 10^{-2}$ (from AAIJ 19AB plus heavy quark symmetry arguments) as well as $f_{\Xi_c^0}/f_{\Xi_c^+} = 1.00 \pm 0.01$. It further uses the inputs $B(\Lambda_c^+ \to pK^-\pi^+) = (6.23 \pm 0.33) \times 10^{-2}$ and $B(\Xi_c^+ \to pK^-\pi^+) = (4.5 \pm 2.1 \pm 0.7) \times 10^{-3}$ (from LI 19C). Its correlation with $B(\Xi_c^+ \to pK^-\pi^+)$, as measured in AAIJ 20AH, is 0.414.

$\Gamma(\Lambda_c^+\pi^-)/\Gamma(\Xi^-\pi^+)$ — Γ_{27}/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.38±0.05 OUR FIT					
0.38±0.04±0.04	1468	[1] TANG	23	BELL	$e^+e^- \to \Upsilon(nS)$

[1] TANG 23 reports fitted masses $m_{\Lambda_c^+} = 2286.55 \pm 0.03$ MeV and $m_{\Xi_c^0} = 2470.43 \pm 0.06$ MeV.

$\Gamma(\Xi^-K^+)/\Gamma(\Xi^-\pi^+)$ — Γ_{28}/Γ_{13}

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
2.75±0.51±0.25	314 ± 58	CHISTOV	13	BELL	$e^+e^- \approx \Upsilon(4S)$

$\Gamma(\Lambda K^+K^-(\text{no}\,\phi))/\Gamma(\Xi^-\pi^+)$ — Γ_{29}/Γ_{13}

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
2.86±0.61±0.37	510 ± 110	CHISTOV	13	BELL	$e^+e^- \approx \Upsilon(4S)$

$\Gamma(\Lambda\phi)/\Gamma(\Xi^-\pi^+)$ — Γ_{30}/Γ_{13}

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
3.43±0.58±0.32	316 ± 54	CHISTOV	13	BELL	$e^+e^- \approx \Upsilon(4S)$

Ξ_c^0 DECAY PARAMETERS

See the note on "Baryon Decay Parameters" in the neutron Listings.

α FOR $\Xi_c^0 \to \Xi^-\pi^+$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
−0.64±0.05±0.01		LI	21C	BELL	e^+e^- at 10.52, 10.58 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$-0.56 \pm 0.39^{+0.10}_{-0.09}$	138	CHAN	01	CLE2	$e^+e^- \approx \Upsilon(4S)$

α FOR $\overline{\Xi}_c^0 \to \overline{\Xi}^+\pi^-$

VALUE	DOCUMENT ID		TECN	COMMENT
0.61±0.05±0.01	LI	21C	BELL	e^+e^- at 10.52, 10.58 GeV

α FOR $\Xi_c^0 \to \Lambda\overline{K}^*(892)^0$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.15±0.22±0.04	4k	[1] JIA	21	BELL	e^+e^- at $\Upsilon(nS)$

[1] JIA 21 measures $\alpha(\Xi_c^0 \to \Lambda\overline{K}^*(892)^0)\ \alpha(\Lambda \to p\pi^-) = 0.115 \pm 0.164 \pm 0.031$, and uses $\alpha(\Lambda \to p\pi^-) = 0.747 \pm 0.010$.

α FOR $\Xi_c^0 \to \Sigma^+K^*(892)^-$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
−0.52±0.30±0.02	373	[1] JIA	21	BELL	e^+e^- at $\Upsilon(nS)$

[1] JIA 21 measures $\alpha(\Xi_c^0 \to \Sigma^+\overline{K}^*(892)^-)\ \alpha(\Sigma^+ \to p\pi^0) = 0.514 \pm 0.295 \pm 0.012$, and uses $\alpha(\Sigma^+ \to p\pi^0) = -0.980 \pm 0.017$.

α FOR $\Xi_c^0 \to \Xi^0 \pi^0$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
−0.90±0.15±0.23	2.2k	[1] ADACHI	24S	BEL2	e^+e^- at $\sim \Upsilon$(nS)

[1] Analysis of Belle and Belle II data samples.

Ξ_c^0 Tests of Baryon Number Violation

τ_{mix}, $\Xi_c^0 - \overline{\Xi}_c^0$ oscillation period

VALUE (10^{-12} s)	DOCUMENT ID		TECN	COMMENT
>1.3	[1] GU	24	BELL	$e^+e^- \to \Upsilon(4S)$

[1] Search for baryon-number violating decay $B^- \to \overline{\Xi}_c^0 \overline{\Lambda}_c^-$, which can be interpreted as a search for $B^- \to \Xi_c^0 \overline{\Lambda}_c^-$ followed by $\Xi_c^0 - \overline{\Xi}_c^0$ baryon-number violating oscillation, from which a bound on the oscillation period τ_{mix} can be inferred, assuming no direct $B^- \to \overline{\Xi}_c^0 \overline{\Lambda}_c^-$ decay.

Ξ_c^0 REFERENCES

AAIJ	25AM	JHEP 2509 157	R. Aaij et al.	(LHCb Collab.)
ABUALROB	25	JHEP 2512 038	I.J. Abualrob et al.	(ALICE Collab.)
ADACHI	24S	JHEP 2410 045	I. Adachi et al.	(BELLE and BELLE II Collab.)
CUI	24	PR D109 052003	J.X.Cui et al.	(BELLE Collab.)
GU	24	PRL 133 071802	T. Gu et al.	(BELLE Collab.)
LI	23	PR D107 032001	Y. Li et al.	(BELLE Collab.)
TANG	23	PR D107 032005	S.S. Tang et al.	(BELLE Collab.)
AAIJ	22Y	SCIB 67 479	R. Aaij et al.	(LHCb Collab.)
ACHARYA	21A	PRL 127 272001	S. Acharya et al.	(ALICE Collab.)
Also		PRL 134 179902 (errat.)	S. Acharya et al.	(ALICE Collab.)
JIA	21	JHEP 2106 160	S. Jia et al.	(BELLE Collab.)
LI	21C	PRL 127 121803	Y.B. Li et al.	(BELLE Collab.)
LI	21F	PR D105 L011102	Y. Li et al.	(BELLE Collab.)
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HENDERSON	92B	PL B283 161	S. Henderson et al.	(CLEO Collab.)
ALBRECHT	90F	PL B247 121	H. Albrecht et al.	(ARGUS Collab.)
BARLAG	90	PL B236 495	S. Barlag et al.	(ACCMOR Collab.)
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