

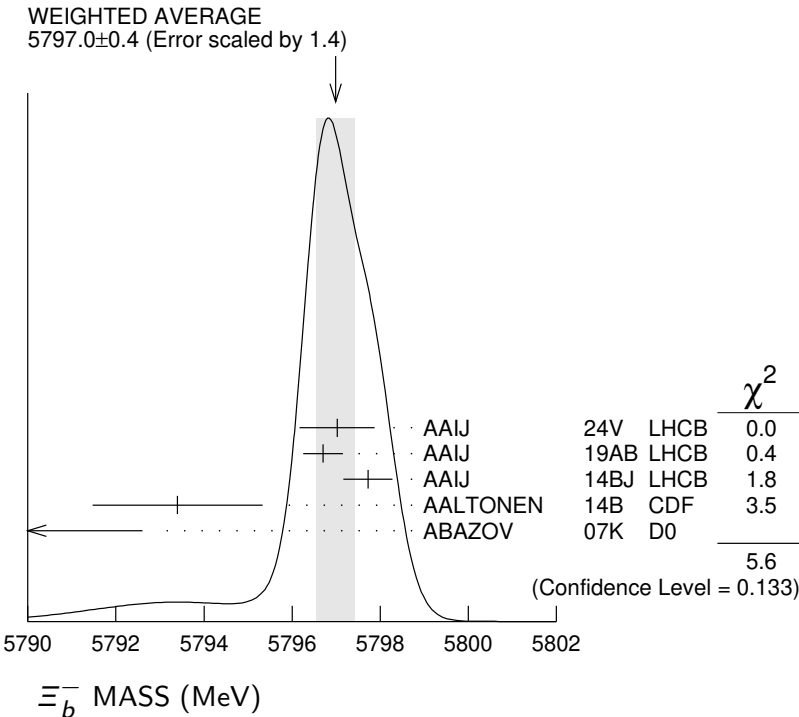
$I(J^P) = \frac{1}{2}(\frac{1}{2}^+)$ Status: ***
 I, J, P need confirmation.

In the quark model, Ξ_b^0 and Ξ_b^- are an isodoublet (usb, dsb) state; the lowest Ξ_b^0 and Ξ_b^- ought to have $J^P = 1/2^+$. None of I, J , or P have actually been measured.

Ξ_b^- MASS

Ξ_b^- MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5797.0 ± 0.4 OUR AVERAGE	Error includes scale factor of 1.4. See the ideogram below.		
5797.02 ± 0.63 ± 0.57	¹ AAIJ	24V LHCb	$p\bar{p}$ at 13 TeV
5796.70 ± 0.39 ± 0.23	AAIJ	19AB LHCb	$p\bar{p}$ at 7, 8 and 13 TeV
5797.72 ± 0.46 ± 0.31	² AAIJ	14BJ LHCb	$p\bar{p}$ at 7, 8 TeV
5793.4 ± 1.8 ± 0.7	³ AALTONEN	14B CDF	$p\bar{p}$ at 1.96 TeV
5774 ± 11 ± 15	⁴ ABAZOV	07K D0	$p\bar{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
5795.8 ± 0.9 ± 0.4	⁵ AAIJ	13AV LHCb	Repl. by AAIJ 19AB
5796.7 ± 5.1 ± 1.4	⁶ AALTONEN	11X CDF	Repl. by AALTONEN 14B
5790.9 ± 2.6 ± 0.8	⁷ AALTONEN	09AP CDF	Repl. by AALTONEN 14B
5792.9 ± 2.5 ± 1.7	⁸ AALTONEN	07A CDF	Repl. by AALTONEN 09AP



¹ Uses $\Xi_b^- \rightarrow \Xi_c^0 D_s^-$ decays.

- ² Reconstructed in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$, $\Xi_c^0 \rightarrow p K^- K^- \pi^+$ decays. Reference Λ_b^0 mass 5619.30 ± 0.34 MeV from AAIJ 14AA.
- ³ Uses $\Xi_b^- \rightarrow J/\psi \Xi^-$ and $\Xi_c^0 \pi^-$ decays.
- ⁴ Observed in $\Xi_b^- \rightarrow J/\psi \Xi^-$ decays with $15.2 \pm 4.4^{+1.9}_{-0.4}$ candidates, a significance of 5.5 sigma.
- ⁵ Measured in $\Xi_b^- \rightarrow J/\psi \Xi^-$ decays.
- ⁶ Measured in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$ with $25.8^{+5.5}_{-5.2}$ candidates.
- ⁷ Measured in $\Xi_b^- \rightarrow J/\psi \Xi^-$ decays with 66^{+14}_{-9} candidates.
- ⁸ Observed in $\Xi_b^- \rightarrow J/\psi \Xi^-$ decays with 17.5 ± 4.3 candidates, a significance of 7.7 sigma.

$m_{\Xi_b^-} - m_{\Lambda_b^0}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
177.48 ± 0.24 OUR AVERAGE	Error includes scale factor of 1.1.		
177.68 ± 0.63 ± 0.33	¹ AAIJ	24V LHCb	pp at 13 TeV
177.71 ± 0.24 ± 0.16	² AAIJ	21 LHCb	pp at 7, 8, 13 TeV
177.08 ± 0.47 ± 0.16	³ AAIJ	17BE LHCb	pp at 7, 8 TeV
176.2 ± 0.9 ± 0.1	⁴ AAIJ	13AV LHCb	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
177.73 ± 0.33 ± 0.14	⁵ AAIJ	17BE LHCb	pp at 7, 8 TeV
178.36 ± 0.46 ± 0.16	^{2,6} AAIJ	14BJ LHCb	Repl. by AAIJ 2021

- ¹ Uses $\Xi_b^- \rightarrow \Xi_c^0 D_s^-$ and $\Lambda_b^0 \rightarrow \Lambda_c^+ D_s^-$ decays.
- ² Reconstructed in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$, $\Xi_c^0 \rightarrow p K^- K^- \pi^+$ decays. Reference decays $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$ were used.
- ³ Reconstructed in $\Xi_b^- \rightarrow J/\psi \Lambda K^-$ decays. Reference decays $\Lambda_b^0 \rightarrow J/\psi \Lambda$ were used.
- ⁴ Reconstructed in $\Xi_b^- \rightarrow J/\psi \Xi^-$ decays.
- ⁵ Combination of the original statistically independent measurements of AAIJ 17BE and AAIJ 14BJ taking into account correlation between systematic uncertainties.
- ⁶ Combined with AAIJ 17BE.

$m_{\Xi_b^-} - m_{\Xi_b^0}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5.9 ± 0.5 OUR AVERAGE			
5.90 ± 0.87 ± 0.32	¹ AAIJ	24V LHCb	pp at 13 TeV
5.92 ± 0.60 ± 0.23	² AAIJ	14BJ LHCb	pp at 7, 8 TeV
3.1 ± 5.6 ± 1.3	³ AALTONEN	11X CDF	$p\bar{p}$ at 1.96 TeV

- ¹ Uses $\Xi_b^- \rightarrow \Xi_c^0 D_s^-$ and $\Xi_b^0 \rightarrow \Xi_c^+ D_s^-$ decays.
- ² Reconstructed in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$, $\Xi_c^0 \rightarrow p K^- K^- \pi^+$ decays. Uses $m(\Xi_b^0) - m(\Lambda_b^0) = 172.44 \pm 0.39 \pm 0.17$ MeV from AAIJ 14Z.
- ³ Derived from measurements in $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$ and $\Xi_b^- \rightarrow J/\psi \Xi^-$ from AALTONEN 09AP taking correlated systematic uncertainties into account.

Ξ_b^- MEAN LIFE

“OUR EVALUATION” is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFLAV) and are described at <https://hflav.web.cern.ch/>. The averaging/rescaling procedure takes into account correlations between the measurements and asymmetric lifetime errors.

 Ξ_b^- MEAN LIFE

VALUE (10^{-12} s)	DOCUMENT ID	TECN	COMMENT
1.578 ± 0.021 OUR EVALUATION	(Produced by HFLAV)		
1.570 ± 0.023 OUR AVERAGE			
$1.578 \pm 0.018 \pm 0.015$	^{1,2} AAIJ	24AJ LHCb	pp at 7, 8, 13 TeV
$1.55^{+0.10}_{-0.09} \pm 0.03$	³ AAIJ	14T LHCb	pp at 7, 8 TeV
$1.32 \pm 0.14 \pm 0.02$	AALTONEN	14B CDF	$p\bar{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$1.575 \pm 0.019 \pm 0.014$	¹ AAIJ	24AJ LHCb	pp at 13 TeV
$1.599 \pm 0.041 \pm 0.022$	⁴ AAIJ	14BJ LHCb	pp at 7, 8 TeV
$1.56^{+0.27}_{-0.25} \pm 0.02$	⁵ AALTONEN	09AP CDF	Repl. by AALTONEN 14B
¹ Reconstructed in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$, $\Xi_c^0 \rightarrow p K^- K^- \pi^+$ decays. Reference Λ_b^0 lifetime 1.464 ± 0.010 ps from PDG 22.			
² Supersedes AAIJ 14BJ and AAIJ 24AJ.			
³ Measured in $\Xi_b^- \rightarrow J/\psi \Xi^-$ decays.			
⁴ Reconstructed in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$, $\Xi_c^0 \rightarrow p K^- K^- \pi^+$ decays. Reference Λ_b^0 lifetime $1.479 \pm 0.009 \pm 0.010$ ps from AAIJ 14U.			
⁵ Measured in $\Xi_b^- \rightarrow J/\psi \Xi^-$ decays with 66^{+14}_{-9} candidates.			

MEAN LIFE RATIOS **$\tau_{\Xi_b^-} / \tau_{\Lambda_b^0}$ mean life ratio**

VALUE	DOCUMENT ID	TECN	COMMENT
$1.078 \pm 0.012 \pm 0.007$	^{1,2} AAIJ	24AJ LHCb	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$1.076 \pm 0.013 \pm 0.006$	¹ AAIJ	24AJ LHCb	pp at 13 TeV
$1.089 \pm 0.026 \pm 0.011$	¹ AAIJ	14BJ LHCb	pp at 7, 8 TeV
¹ Reconstructed in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$, $\Xi_c^0 \rightarrow p K^- K^- \pi^+$ decays. Used $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$ for normalization.			
² Supersedes AAIJ 14BJ and AAIJ 24AJ.			

 $\tau_{\Xi_b^-} / \tau_{\Xi_b^0}$ mean life ratio

VALUE	DOCUMENT ID	TECN	COMMENT
$1.083 \pm 0.032 \pm 0.016$	¹ AAIJ	14BJ LHCb	pp at 7, 8 TeV
¹ Reconstructed in $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$, $\Xi_c^0 \rightarrow p K^- K^- \pi^+$ decays. Uses Ξ_b^0 measurements from AAIJ 14Z.			

Ξ_b^- DECAY MODES

Mode	Fraction (Γ_i/Γ)	Confidence level
$\Gamma_1 \quad J/\psi \Xi^- \times B(b \rightarrow \Xi_b^-)$	$(1.02^{+0.26}_{-0.21}) \times 10^{-5}$	90%
$\Gamma_2 \quad J/\psi \Lambda K^- \times B(b \rightarrow \Xi_b^-)$	$(2.5 \pm 0.4) \times 10^{-6}$	
$\Gamma_3 \quad p K^- K^- \times B(b \rightarrow \Xi_b^-)$	$(3.7 \pm 0.8) \times 10^{-8}$	
$\Gamma_4 \quad p K^- K^-$	$(2.3 \pm 0.9) \times 10^{-6}$	
$\Gamma_5 \quad p \pi^- \pi^-$	$< 1.3 \times 10^{-6}$	
$\Gamma_6 \quad p K^- \pi^-$	$(2.3 \pm 1.1) \times 10^{-6}$	
$\Gamma_7 \quad \Lambda_b^0 \pi^- \times B(b \rightarrow \Xi_b^-)/B(b \rightarrow \Lambda_b^0)$	$(7.0 \pm 0.9) \times 10^{-4}$	
$\Gamma_8 \quad \Xi_c^0 \pi^-$	seen	
$\Gamma_9 \quad \Xi_c^0 D_s^- \times B(b \rightarrow \Xi_b^-)/B(b \rightarrow \Lambda_b^0)$	$(1.9 \pm 0.5) \times 10^{-3}$	
$\Gamma_{10} \quad \Sigma(1385) K^-$	$(2.6 \pm 2.3) \times 10^{-7}$	
$\Gamma_{11} \quad \Lambda(1405) K^-$	$(1.9 \pm 1.2) \times 10^{-7}$	
$\Gamma_{12} \quad \Lambda(1520) K^-$	$(7.6 \pm 3.2) \times 10^{-7}$	
$\Gamma_{13} \quad \Lambda(1670) K^-$	$(4.5 \pm 2.3) \times 10^{-7}$	
$\Gamma_{14} \quad \Sigma(1775) K^-$	$(2.2 \pm 1.5) \times 10^{-7}$	
$\Gamma_{15} \quad \Sigma(1915) K^-$	$(2.6 \pm 2.5) \times 10^{-7}$	
$\Gamma_{16} \quad \Lambda_c^+ K^- \pi^-$	seen	95%
$\Gamma_{17} \quad \Lambda_c^+ K^- K^-$		
$\Gamma_{18} \quad \Lambda_c^+ \pi^- \pi^-$		
$\Gamma_{19} \quad J/\psi \Xi^-$	seen	
$\Gamma_{20} \quad \psi(2S) \Xi^-$	seen	
$\Gamma_{21} \quad \Xi^- \gamma$	$< 1.3 \times 10^{-4}$	

 Ξ_b^- BRANCHING RATIOS

$\Gamma(J/\psi \Xi^- \times B(b \rightarrow \Xi_b^-))/\Gamma_{\text{total}}$	Γ_1/Γ		
VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT

0.102^{+0.026}_{-0.021} OUR AVERAGE0.098^{+0.023}_{-0.016} ± 0.014 ¹ AALTONEN 09AP CDF $p\bar{p}$ at 1.96 TeV0.16 ± 0.07 ± 0.02 ² ABAZOV 07K D0 $p\bar{p}$ at 1.96 TeV

¹ AALTONEN 09AP reports $[\Gamma(\Xi_b^- \rightarrow J/\psi \Xi^- \times B(b \rightarrow \Xi_b^-))/\Gamma_{\text{total}}] / [B(\Lambda_b^0 \rightarrow J/\psi(1S) \Lambda \times B(b \rightarrow \Lambda_b^0))] = 0.167^{+0.037}_{-0.025} \pm 0.012$ which we multiply by our best value $B(\Lambda_b^0 \rightarrow J/\psi(1S) \Lambda \times B(b \rightarrow \Lambda_b^0)) = (5.8 \pm 0.8) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

² ABAZOV 07K reports $[\Gamma(\Xi_b^- \rightarrow J/\psi \Xi^- \times B(b \rightarrow \Xi_b^-))/\Gamma_{\text{total}}] / [B(\Lambda_b^0 \rightarrow J/\psi(1S) \Lambda \times B(b \rightarrow \Lambda_b^0))] = 0.28 \pm 0.09^{+0.09}_{-0.08}$ which we multiply by our best value $B(\Lambda_b^0 \rightarrow J/\psi(1S) \Lambda \times B(b \rightarrow \Lambda_b^0)) = (5.8 \pm 0.8) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$$\Gamma(J/\psi \Lambda K^- \times B(b \rightarrow \Xi_b^-))/\Gamma_{\text{total}} \quad \Gamma_2/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$2.45 \pm 0.19 \pm 0.35$	^{1,2} AAIJ	17BE LHCB	pp at 7 and 8 TeV

¹ AAIJ 17BE reports $[\Gamma(\Xi_b^- \rightarrow J/\psi \Lambda K^- \times B(b \rightarrow \Xi_b^-))/\Gamma_{\text{total}}] / [B(\Lambda_b^0 \rightarrow J/\psi(1S) \Lambda \times B(b \rightarrow \Lambda_b^0))] = (4.19 \pm 0.29 \pm 0.15) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_b^0 \rightarrow J/\psi(1S) \Lambda \times B(b \rightarrow \Lambda_b^0)) = (5.8 \pm 0.8) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

² Integrated over the b -baryon transverse momentum $p_T < 25$ GeV and rapidity $2.0 < y < 4.5$.

$$\Gamma(p K^- K^- \times B(b \rightarrow \Xi_b^-))/\Gamma_{\text{total}} \quad \Gamma_3/\Gamma$$

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
$3.7 \pm 0.8 \pm 0.2$	¹ AAIJ	17F LHCB	pp at 7, 8 TeV

¹ AAIJ 17F reports $[\Gamma(\Xi_b^- \rightarrow p K^- K^- \times B(\bar{b} \rightarrow \Xi_b^-))/\Gamma_{\text{total}}] / [B(B^+ \rightarrow K^+ K^- K^+)] / [B(\bar{b} \rightarrow B^+)] = (2.65 \pm 0.35 \pm 0.47) \times 10^{-3}$ which we multiply by our best values $B(B^+ \rightarrow K^+ K^- K^+) = (3.40 \pm 0.14) \times 10^{-5}$, $B(\bar{b} \rightarrow B^+) = (40.8 \pm 0.7) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

$$\Gamma(p K^- K^-)/\Gamma_{\text{total}} \quad \Gamma_4/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
2.3 ± 0.9	¹ AAIJ	21AH LHCB	pp at 7, 8, 13 TeV

¹ Obtained using the ratio of fragmentation and branching fractions relative to the $B^- \rightarrow K^+ K^- K^-$ decay.

$$\Gamma(p \pi^- \pi^-)/\Gamma(p K^- K^-) \quad \Gamma_5/\Gamma_4$$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
< 0.56	90	¹ AAIJ	17F LHCB	pp at 7, 8 TeV

¹ Measures the ratio as $0.28 \pm 0.16 \pm 0.13$.

$$\Gamma(p K^- \pi^-)/\Gamma(p K^- K^-) \quad \Gamma_6/\Gamma_4$$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.98 \pm 0.27 \pm 0.09$	AAIJ	17F LHCB	pp at 7, 8 TeV

$$\Gamma(\Lambda_b^0 \pi^- \times B(b \rightarrow \Xi_b^-)/B(b \rightarrow \Lambda_b^0))/\Gamma_{\text{total}} \quad \Gamma_7/\Gamma$$

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
7.0 ± 0.9 OUR AVERAGE			
$7.3 \pm 0.8 \pm 0.6$	¹ AAIJ	23AV LHCB	pp at 13 TeV
$5.7 \pm 1.8^{+0.8}_{-0.9}$	² AAIJ	15BA LHCB	pp at 7, 8 TeV

¹ Measured in the decay chain of $\Xi_b^- \rightarrow \Lambda_b^0 \pi^-$, $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$ and $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^- \pi^+ \pi^-$, with $\Lambda_c^+ \rightarrow p K^- \pi^+$.

² A signal is reported with a significance of 3.2 standard deviations in the decay chain of $\Xi_b^- \rightarrow \Lambda_b^0 \pi^-$, $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$, and $\Lambda_c^+ \rightarrow p K^- \pi^+$.

$$\Gamma(\Xi_c^0 \pi^-)/\Gamma_{\text{total}} \quad \Gamma_8/\Gamma$$

VALUE	DOCUMENT ID	TECN	COMMENT
seen	AAIJ	16O LHCB	pp at 7, 8 TeV

$$\Gamma(\Xi_c^0 D_s^- \times B(b \rightarrow \Xi_b^-))/B(b \rightarrow \Lambda_b^0)/\Gamma_{\text{total}} \quad \Gamma_9/\Gamma$$

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
$1.9 \pm 0.5 \pm 0.2$	¹ AAIJ	24v LHCB	pp at 13 TeV

¹ AAIJ 24v reports $[\Gamma(\Xi_b^- \rightarrow \Xi_c^0 D_s^- \times B(b \rightarrow \Xi_b^-))/B(b \rightarrow \Lambda_b^0)/\Gamma_{\text{total}}] / [B(\Lambda_b^0 \rightarrow \Lambda_c^+ D_s^-)] = (16.9 \pm 1.3 \pm 4.4) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_b^0 \rightarrow \Lambda_c^+ D_s^-) = (1.10 \pm 0.10) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$$\Gamma(\Sigma(1385)K^-)/\Gamma_{\text{total}} \quad \Gamma_{10}/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.26 \pm 0.11 \pm 0.20$	¹ AAIJ	21AH LHCB	pp at 7, 8 and 13 TeV

¹ Obtained from an amplitude analysis of quasi-two-body contributions to the $\Xi_b^- \rightarrow RK^-$ decay, with $R \rightarrow pK^-$.

$$\Gamma(\Lambda(1405)K^-)/\Gamma_{\text{total}} \quad \Gamma_{11}/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.19 \pm 0.06 \pm 0.10$	¹ AAIJ	21AH LHCB	pp at 7, 8 and 13 TeV

¹ Obtained from an amplitude analysis of quasi-two-body contributions to the $\Xi_b^- \rightarrow RK^-$ decay, with $R \rightarrow pK^-$.

$$\Gamma(\Lambda(1520)K^-)/\Gamma_{\text{total}} \quad \Gamma_{12}/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.76 \pm 0.09 \pm 0.31$	¹ AAIJ	21AH LHCB	pp at 7, 8 and 13 TeV

¹ Obtained from an amplitude analysis of quasi-two-body contributions to the $\Xi_b^- \rightarrow RK^-$ decay, with $R \rightarrow pK^-$.

$$\Gamma(\Lambda(1670)K^-)/\Gamma_{\text{total}} \quad \Gamma_{13}/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.45 \pm 0.07 \pm 0.22$	¹ AAIJ	21AH LHCB	pp at 7, 8 and 13 TeV

¹ Obtained from an amplitude analysis of quasi-two-body contributions to the $\Xi_b^- \rightarrow RK^-$ decay, with $R \rightarrow pK^-$.

$$\Gamma(\Sigma(1775)K^-)/\Gamma_{\text{total}} \quad \Gamma_{14}/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.22 \pm 0.08 \pm 0.13$	¹ AAIJ	21AH LHCB	pp at 7, 8 and 13 TeV

¹ Obtained from an amplitude analysis of quasi-two-body contributions to the $\Xi_b^- \rightarrow RK^-$ decay, with $R \rightarrow pK^-$.

$$\Gamma(\Sigma(1915)K^-)/\Gamma_{\text{total}} \quad \Gamma_{15}/\Gamma$$

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.26 \pm 0.09 \pm 0.23$	¹ AAIJ	21AH LHCB	pp at 7, 8 and 13 TeV

¹ Obtained from an amplitude analysis of quasi-two-body contributions to the $\Xi_b^- \rightarrow RK^-$ decay, with $R \rightarrow pK^-$.

$\Gamma(\Lambda_c^+ K^- K^-)/\Gamma(\Lambda_c^+ K^- \pi^-)$ Γ_{17}/Γ_{16}

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$4.5 \pm 1.1 \pm 0.5$	AAIJ	24T LHCb	pp at 7, 8, 13 TeV

 $\Gamma(\Lambda_c^+ \pi^- \pi^-)/\Gamma(\Lambda_c^+ K^- \pi^-)$ Γ_{18}/Γ_{16}

VALUE	DOCUMENT ID	TECN	COMMENT
$< 6.5 \times 10^{-2}$	AAIJ	24T LHCb	pp at 7, 8, 13 TeV

 $\Gamma(\psi(2S) \Xi^-)/\Gamma(J/\psi \Xi^-)$ Γ_{20}/Γ_{19}

VALUE	DOCUMENT ID	TECN	COMMENT
$0.84^{+0.21}_{-0.19} \pm 0.10 \pm 0.02$	¹ HAYRAPETY...24R	CMS	pp at 13 TeV

¹ HAYRAPETYAN 24R value last uncertainty comes from the uncertainties in the branching fractions of the charmonium states.

 $\Gamma(\Xi^- \gamma)/\Gamma_{\text{total}}$ Γ_{21}/Γ

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$< 1.3 \times 10^{-4}$	95	¹ AAIJ	22F LHCb	pp at 13 TeV

¹ Used $\Xi_b^- \rightarrow \Xi^- J/\psi$ as normalization and an integrated luminosity of 5.4 fb^{-1} .

P VIOLATION ASYMMETRY

 $A_P(\Xi_b), \Xi_b^- - \Xi_b^+$ production asymmetry

$$A_P(\Xi_b) = [\sigma(\Xi_b^-) - \sigma(\Xi_b^+)] / [\sigma(\Xi_b^-) + \sigma(\Xi_b^+)]$$

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
-2 ± 4 OUR AVERAGE			
$1.1 \pm 5.6 \pm 1.9$	^{1,2} AAIJ	19AB LHCb	pp at 7 and 8 TeV
$-3.9 \pm 4.9 \pm 2.5$	^{1,2} AAIJ	19AB LHCb	pp at 13 TeV

¹ Baryon kinematic range $p_T < 20 \text{ GeV}/c$ and $2 < \eta < 6$.

² Measured using previous measurements of $A_P(\Lambda_b)$ in AAIJ 17BF.

CP VIOLATION in Ξ_b decays

$$A_{CP}(\Xi_b) = [B(\Xi_b^- \rightarrow f) - B(\Xi_b^+ \rightarrow \bar{f})] / \text{Sum}$$

 $A_{CP}(\Xi_b^- \rightarrow \Sigma(1385) K^-)$

VALUE	DOCUMENT ID	TECN	COMMENT
$(-27 \pm 34 \pm 73) \times 10^{-2}$	AAIJ	21AH LHCb	pp at 7, 8, 13 TeV

 $A_{CP}(\Xi_b^- \rightarrow \Lambda(1405) K^-)$

VALUE	DOCUMENT ID	TECN	COMMENT
$(-1 \pm 24 \pm 32) \times 10^{-2}$	AAIJ	21AH LHCb	pp at 7, 8, 13 TeV

 $A_{CP}(\Xi_b^- \rightarrow \Lambda(1520) K^-)$

VALUE	DOCUMENT ID	TECN	COMMENT
$(-5 \pm 9 \pm 8) \times 10^{-2}$	AAIJ	21AH LHCb	pp at 7, 8, 13 TeV

$A_{CP}(\Xi_b^- \rightarrow \Lambda(1670)K^-)$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$(3 \pm 14 \pm 10) \times 10^{-2}$	AAIJ	21AH LHCB	pp at 7, 8, 13 TeV

 $A_{CP}(\Xi_b^- \rightarrow \Sigma(1775)K^-)$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$(-47 \pm 26 \pm 14) \times 10^{-2}$	AAIJ	21AH LHCB	pp at 7, 8, 13 TeV

 $A_{CP}(\Xi_b^- \rightarrow \Sigma(1915)K^-)$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$(11 \pm 26 \pm 22) \times 10^{-2}$	AAIJ	21AH LHCB	pp at 7, 8, 13 TeV

 Ξ_b^- REFERENCES

AAIJ	24AJ	PR D110 072002	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	24T	JHEP 2408 132	R. Aaij	(LHCb Collab.)
AAIJ	24V	EPJ C84 237	R. Aaij <i>et al.</i>	(LHCb Collab.)
HAYRAPETYAN...	24R	PR D110 012002	A. Hayrapetyan <i>et al.</i>	(CMS Collab.)
AAIJ	23AV	PR D108 072002	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	22F	JHEP 2201 069	R. Aaij <i>et al.</i>	(LHCb Collab.)
PDG	22	PTEP 2022 083C01	R.L. Workman <i>et al.</i>	(PDG Collab.)
AAIJ	21	PR D103 012004	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	21AH	PR D104 052010	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	19AB	PR D99 052006	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	17BE	PL B772 265	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	17BF	PL B774 139	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	17F	PRL 118 071801	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	16O	PR D93 092007	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	15BA	PRL 115 241801	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	14AA	PRL 112 202001	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	14BJ	PRL 113 242002	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	14T	PL B736 154	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	14U	PL B734 122	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	14Z	PRL 113 032001	R. Aaij <i>et al.</i>	(LHCb Collab.)
AALTONEN	14B	PR D89 072014	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AAIJ	13AV	PRL 110 182001	R. Aaij <i>et al.</i>	(LHCb Collab.)
AALTONEN	11X	PRL 107 102001	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AALTONEN	09AP	PR D80 072003	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AALTONEN	07A	PRL 99 052002	T. Aaltonen <i>et al.</i>	(CDF Collab.)
ABAZOV	07K	PRL 99 052001	V.M. Abazov <i>et al.</i>	(D0 Collab.)