NODE=S040

Λ_b^0

$I(J^P) = 0(\frac{1}{2}^+)$ Status: ∗∗∗

In the quark model, a Λ_b^0 is an isospin-0 $u\,d\,b$ state. The lowest Λ_b^0 ought to have $J^P = 1/2^+$. None of I, J, or P have actually been measured.

NODE=S040

Λ_b^0 MASS

NODE=S040205

$m_{\Lambda_b^0}$

NODE=S040M
NODE=S040M

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
5619.57 ± 0.16 OUR AVERAGE					
5619.34 ± 0.06 ± 0.47		[1] AAIJ	24V	LHCB	pp at 13 TeV
5619.62 ± 0.16 ± 0.13		[2] AAIJ	17AM	LHCB	pp at 7, 8 TeV
5619.30 ± 0.34		[3] AAIJ	14AA	LHCB	pp at 7 TeV
5620.15 ± 0.31 ± 0.47		[4] AALTONEN	14B	CDF	$p\overline{p}$ at 1.96 TeV
5619.7 ± 0.7 ± 1.1		[4] AAD	13U	ATLS	pp at 7 TeV
5621 ± 4 ± 3		[5] ABE	97B	CDF	$p\overline{p}$ at 1.8 TeV
5668 ± 16 ± 8	4	[6] ABREU	96N	DLPH	$e^+e^- \rightarrow Z$
5614 ± 21 ± 4	4	[6] BUSKULIC	96L	ALEP	$e^+e^- \rightarrow Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
5619.65 ± 0.17 ± 0.17		[7] AAIJ	16Y	LHCB	Repl. by AAIJ 17AM
5619.44 ± 0.13 ± 0.38		[4] AAIJ	13AV	LHCB	Repl. by AAIJ 17AM
5619.19 ± 0.70 ± 0.30		[4] AAIJ	12E	LHCB	Repl. by AAIJ 13AV
5619.7 ± 1.2 ± 1.2		[8] ACOSTA	06	CDF	Repl. by AALTONEN 14B
not seen		[9] ABE	93B	CDF	Repl. by ABE 97B
5640 ± 50 ± 30	16	[10] ALBAJAR	91E	UA1	$p\overline{p}$ 630 GeV
5640 $^{+100}_{-210}$	52	BARI	91	SFM	$\Lambda_b^0 \rightarrow p D^0 \pi^-$
5650 $^{+150}_{-200}$	90	BARI	91	SFM	$\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^+ \pi^- \pi^-$

OCCUR=2

[1] Uses $\Lambda_b^0 \rightarrow \Lambda_c^+ D_s^-$ decays. NODE=S040M;LINKAGE=J

[2] Uses $\Lambda_b^0 \rightarrow \chi_{c1} p K^-$, $\Lambda_b^0 \rightarrow \chi_{c2} p K^-$, $\Lambda_b^0 \rightarrow J/\psi \Lambda$, $\Lambda_b^0 \rightarrow p \psi(2S) K^-$, $\Lambda_b^0 \rightarrow p J/\psi \pi^+ \pi^- K^-$, and $\Lambda_b^0 \rightarrow p J/\psi K^-$ decays. NODE=S040M;LINKAGE=I

[3] Uses exclusively reconstructed final states $\Lambda_b^0 \rightarrow \Lambda_c^+ D_s^-$, $\Lambda_c^+ D^-$ and $\overline{B}^0 \rightarrow D^+ D_s^-$ decays. The uncertainty includes both statistical and systematic contributions. NODE=S040M;LINKAGE=H

[4] Uses $\Lambda_b^0 \rightarrow J/\psi \Lambda$ fully reconstructed decays. NODE=S040M;LINKAGE=AA

[5] ABE 97B observed 38 events with a background of 18 ± 1.6 events in the mass range 5.60–5.65 GeV/c^2, a significance of > 3.4 standard deviations. NODE=S040M;LINKAGE=F

[6] Uses 4 fully reconstructed Λ_b events. NODE=S040M;LINKAGE=E

[7] Uses $\Lambda_b^0 \rightarrow p \psi(2S) K^-$, $\Lambda_b^0 \rightarrow p J/\psi \pi^+ \pi^- K^-$, and $\Lambda_b^0 \rightarrow p J/\psi K^-$ decays. NODE=S040M;LINKAGE=G

[8] Uses exclusively reconstructed final states containing a $J/\psi \rightarrow \mu^+ \mu^-$ decays. NODE=S040M;LINKAGE=AT

[9] ABE 93B states that, based on the signal claimed by ALBAJAR 91E, CDF should have found 30 ± 23 $\Lambda_b^0 \rightarrow J/\psi(1S) \Lambda$ events. Instead, CDF found not more than 2 events. NODE=S040M;LINKAGE=D

[10] ALBAJAR 91E claims 16 ± 5 events above a background of 9 ± 1 events, a significance of about 5 standard deviations. NODE=S040M;LINKAGE=C

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

NODE=S040DM
NODE=S040DM

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
339.2 ± 1.4 ± 0.1	[1] ACOSTA	06	CDF	$p\overline{p}$ at 1.96 TeV

[1] Uses exclusively reconstructed final states containing $J/\psi \rightarrow \mu^+ \mu^-$ decays. NODE=S040DM;LINKAGE=AT

$m_{\Lambda_b^0} - m_{B^+}$

NODE=S040DM2
NODE=S040DM2

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
339.72 ± 0.28 OUR AVERAGE				
339.72 ± 0.24 ± 0.18	[1] AAIJ	14AA	LHCB	pp at 7 TeV
339.71 ± 0.71 ± 0.09	[2] AAIJ	12E	LHCB	pp at 7 TeV

[1] Uses exclusively reconstructed final states $\Lambda_b^0 \rightarrow \Lambda_c^+ D_s^-$, $\Lambda_c^+ D^-$ and $\overline{B}^0 \rightarrow D^+ D_s^-$ decays. NODE=S040DM2;LINKAGE=A

[2] Uses exclusively reconstructed final states containing $J/\psi \rightarrow \mu^+ \mu^-$ decays. NODE=S040DM2;LINKAGE=AA

Λ_b^0 MEAN LIFE

NODE=S040T

See b-baryon Admixture section for data on b-baryon mean life average over species of b-baryon particles.

NODE=S040T

NODE=S040T

→ UNCHECKED ←

VALUE (10^{-12} s)	EVTS	DOCUMENT ID		TECN	COMMENT
1.468±0.009 OUR EVALUATION		(Produced by HFLAV)			
$1.477\pm0.027\pm0.009$		[1] SIRUNYAN	18BY	CMS	pp at 8 TeV
$1.415\pm0.027\pm0.006$		[2] AAIJ	14E	LHCB	pp at 7 TeV
$1.479\pm0.009\pm0.010$		[3] AAIJ	14U	LHCB	pp at 7, 8 TeV
$1.565\pm0.035\pm0.020$		[2] AALTONEN	14B	CDF	$p\overline{p}$ at 1.96 TeV
$1.449\pm0.036\pm0.017$		[2] AAD	13U	ATLS	pp at 7 TeV
$1.503\pm0.052\pm0.031$		[2] CHATRCHYAN	13AC	CMS	pp at 7 TeV
$1.303\pm0.075\pm0.035$		[2] ABAZOV	12U	D0	$p\overline{p}$ at 1.96 TeV
$1.401\pm0.046\pm0.035$		[4] AALTONEN	10B	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$1.482\pm0.018\pm0.012$		[5] AAIJ	13BB	LHCB	Repl. by AAIJ 14U
$1.537\pm0.045\pm0.014$		[2] AALTONEN	11	CDF	Repl. by AALTONEN 14B
$1.218^{+0.130}_{-0.115}\pm0.042$		[2] ABAZOV	07S	D0	Repl. by ABAZOV 12U
$1.290^{+0.119}_{-0.110}{}^{+0.087}_{-0.091}$		[6] ABAZOV	07U	D0	$p\overline{p}$ at 1.96 TeV
$1.593^{+0.083}_{-0.078}\pm0.033$		[2] ABULENCIA	07A	CDF	Repl. by AALTONEN 11
$1.22\ ^{+0.22}_{-0.18}\pm0.04$		[2] ABAZOV	05C	D0	Repl. by ABAZOV 07S
$1.11\ ^{+0.19}_{-0.18}\pm0.05$		[7] ABREU	99W	DLPH	$e^+e^- \to Z$
$1.29\ ^{+0.24}_{-0.22}\pm0.06$		[7] ACKERSTAFF	98G	OPAL	$e^+e^- \to Z$
$1.21\ \pm0.11$		[7] BARATE	98D	ALEP	$e^+e^- \to Z$
$1.32\ \pm0.15\pm0.07$		[8] ABE	96M	CDF	$p\overline{p}$ at 1.8 TeV
$1.19\ ^{+0.21}_{-0.18}{}^{+0.07}_{-0.08}$		ABREU	96D	DLPH	Repl. by ABREU 99W
$1.27\ ^{+0.35}_{-0.29}\pm0.09$		ABREU	95S	DLPH	Repl. by ABREU 99W
$1.14\ ^{+0.22}_{-0.19}\pm0.07$	69	AKERS	95K	OPAL	Repl. by ACKERSTAFF 98G
$1.02\ ^{+0.23}_{-0.18}\pm0.06$	44	BUSKULIC	95L	ALEP	Repl. by BARATE 98D

OCCUR=3

OCCUR=2

[1] Measured using $\Lambda_b^0 \to J/\psi\Lambda$ decays. NODE=S040T;LINKAGE=A

[2] Measured mean life using fully reconstructed $\Lambda_b^0 \to J/\psi\Lambda$ decays. NODE=S040T;LINKAGE=AB

[3] Used $\Lambda_b^0 \to J/\psi p K^-$ decays. NODE=S040T;LINKAGE=AI

[4] Measured mean life using fully reconstructed $\Lambda_b^0 \to \Lambda_c^+\pi^-$ decays. NODE=S040T;LINKAGE=AA

[5] Measured the lifetime ratio of decays $\Lambda_b^0 \to J/\psi p K^-$ to $B^0 \to J/\psi\pi^+K^-$ to be $0.976\pm0.012\pm0.006$ with $\tau_{B^0} = 1.519\pm0.007$ ps. NODE=S040T;LINKAGE=AJ

[6] Measured using semileptonic decays $\Lambda_b^0 \to \Lambda_c^+\mu\nu X$ and $\Lambda_c^+ \to K_S^0 p$. NODE=S040T;LINKAGE=AZ

[7] Measured using $\Lambda_c\ell^-$ and $\Lambda\ell^+\ell^-$. NODE=S040T;LINKAGE=KK

[8] Excess $\Lambda_c\ell^-$, decay lengths. NODE=S040T;LINKAGE=AE

$\tau_{\Lambda_b^0}/\tau_{\overline{\Lambda}_b^0}$

NODE=S040DT

NODE=S040DT

VALUE	DOCUMENT ID		TECN	COMMENT
0.940±0.035±0.006	[1] AAIJ	14E	LHCB	pp at 7 TeV

[1] Measured using $\Lambda_b^0 \to J/\psi\Lambda$ decays. NODE=S040DT;LINKAGE=A

$\tau_{\Lambda_b^0}/\tau_{B^0}$ MEAN LIFE RATIO

NODE=S040211

$\tau_{\Lambda_b^0}/\tau_{B^0}$ (direct measurements)

NODE=S040TR

NODE=S040TR

→ UNCHECKED ←

VALUE	DOCUMENT ID		TECN	COMMENT
0.964±0.007 OUR EVALUATION	(Produced by HFLAV)			
0.970±0.009 OUR AVERAGE	Error includes scale factor of 1.4. See the ideogram below.			
$0.978\pm0.018\pm0.006$	[1] SIRUNYAN	18BY	CMS	pp at 8 TeV
$0.929\pm0.018\pm0.004$	[1] AAIJ	14E	LHCB	pp at 7 TeV
$0.974\pm0.006\pm0.004$	[2] AAIJ	14U	LHCB	pp at 7, 8 TeV
$0.960\pm0.025\pm0.016$	[3] AAD	13U	ATLS	pp at 7 TeV
$0.864\pm0.052\pm0.033$	[4,5] ABAZOV	12U	D0	$p\overline{p}$ at 1.96 TeV
$1.020\pm0.030\pm0.008$	[4] AALTONEN	11	CDF	$p\overline{p}$ at 1.96 TeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

$0.976 \pm 0.012 \pm 0.006$	[6] AAIJ	13BB	LHCB	Repl. by AAIJ 14U
$0.811^{+0.096}_{-0.087} \pm 0.034$	[4,5] ABAZOV	07S	D0	Repl. by ABAZOV 12U
1.041 ± 0.057	[7] ABULENCIA	07A	CDF	Repl. by AALTONEN 11
$0.87\ ^{+0.17}_{-0.14} \pm 0.03$	[7] ABAZOV	05C	D0	Repl. by ABAZOV 07S

[1] Measured using $\Lambda_b^0 \rightarrow J/\psi \Lambda$ and $B^0 \rightarrow J/\psi K^*(892)^0$ decays. NODE=S040TR;LINKAGE=B

[2] Used $\Lambda_b^0 \rightarrow J/\psi p K^-$ and $B^0 \rightarrow J/\psi K^*(892)^0$ decays. NODE=S040TR;LINKAGE=AA

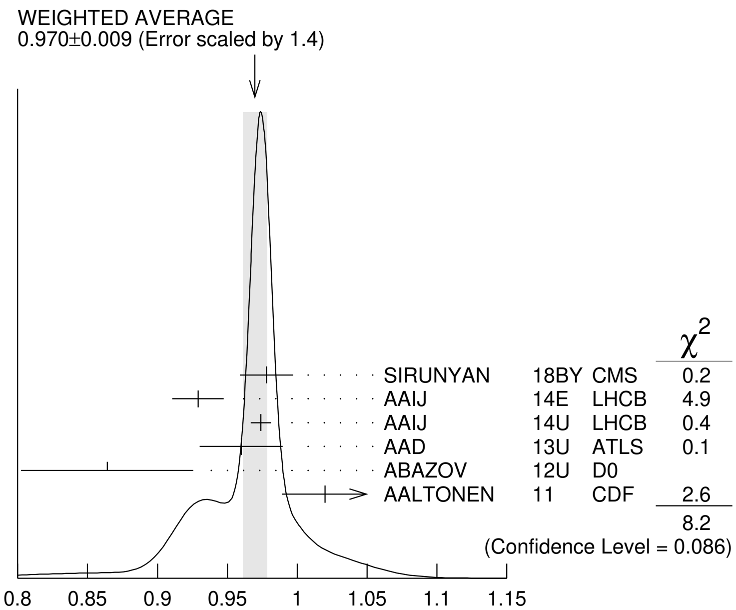
[3] Measured with $\Lambda_b^0 \rightarrow J/\psi(\mu^+\mu^-)\ \Lambda^0(p\pi^-)$ decays. NODE=S040TR;LINKAGE=AD

[4] Uses fully reconstructed $\Lambda_b \rightarrow J/\psi \Lambda$ decays. NODE=S040TR;LINKAGE=ZO

[5] Uses $B^0 \rightarrow J/\psi K_S^0$ decays for denominator. NODE=S040TR;LINKAGE=ZV

[6] Measures $1/\tau_{\Lambda_b^0} - 1/\tau_{B^0}$ and uses $\tau_{B^0} = 1.519 \pm 0.007$ ps to extract lifetime ratio. NODE=S040TR;LINKAGE=A

[7] Measured mean life ratio using fully reconstructed decays. NODE=S040TR;LINKAGE=AB



$\tau_{\Lambda_b^0}/\tau_{B^0}$ (direct measurements)

Λ_b^0 DECAY MODES

NODE=S040210;NODE=S040

The branching fractions B(b-baryon $\rightarrow \Lambda \ell^- \overline{\nu}_\ell$ anything) and B($\Lambda_b^0 \rightarrow \Lambda_c^+ \ell^- \overline{\nu}_\ell$ anything) are not pure measurements because the underlying measured products of these with B($b \rightarrow b$-baryon) were used to determine B($b \rightarrow b$-baryon), as described in the note "Production and Decay of b-Flavored Hadrons."

NODE=S040

For inclusive branching fractions, *e.g.*, $\Lambda_b \rightarrow \overline{\Lambda}_c$ anything, the values usually are multiplicities, not branching fractions. They can be greater than one.

	Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	
Γ_1	$J/\psi(1S)\Lambda \times$ B($b \rightarrow \Lambda_b^0$)	$(5.8 \pm 0.8) \times 10^{-5}$		DESIG=3
Γ_2	$J/\psi(1S)\Lambda$			DESIG=39
Γ_3	$J/\psi(1S)\Lambda\phi$			DESIG=70
Γ_4	$\psi(2S)\Lambda$			DESIG=40
Γ_5	$p D^0 \pi^-$	$(6.3 \pm 0.6) \times 10^{-4}$		DESIG=1
Γ_6	$p D^+ \pi^- \pi^-$	$(2.8 \pm 0.4) \times 10^{-4}$		DESIG=79
Γ_7	$p D^*(2010)^+ \pi^- \pi^-$	$(5.3 \pm 1.0) \times 10^{-4}$		DESIG=80
Γ_8	$\Lambda_c(2860)^+ \pi^-$, $\Lambda_c^+ \rightarrow D^0 p$			DESIG=58
Γ_9	$\Lambda_c(2880)^+ \pi^-$, $\Lambda_c^+ \rightarrow D^0 p$			DESIG=56
Γ_{10}	$\Lambda_c(2940)^+ \pi^-$, $\Lambda_c^+ \rightarrow D^0 p$			DESIG=57
Γ_{11}	$p D^0 K^-$	$(4.6 \pm 0.8) \times 10^{-5}$		DESIG=28

Γ_{12}	$p D K^-$, $D \to K^- \pi^+$				DESIG=76
Γ_{13}	$p D K^-$, $D \to K^+ \pi^-$				DESIG=77
Γ_{14}	$p J/\psi \pi^-$		$(2.6 {}^{+0.5}_{-0.4}) \times 10^{-5}$		DESIG=32
Γ_{15}	$p \pi^- J/\psi$, $J/\psi \to \mu^+ \mu^-$		$(1.6 \pm 0.8) \times 10^{-6}$		DESIG=55
Γ_{16}	$p J/\psi K^-$		$(3.2 {}^{+0.6}_{-0.5}) \times 10^{-4}$		DESIG=33
Γ_{17}	$J/\psi \Xi^- K^+$				DESIG=105
Γ_{18}	$p \eta_c(1S) K^-$		$(1.06 \pm 0.26) \times 10^{-4}$		DESIG=71
Γ_{19}	$P_{c\overline{c}}(4312)^+ K^-$, $P^+_{c\overline{c}} \to p \eta_c(1S)$		$< 2.5 \times 10^{-5}$	CL=95%	DESIG=72
Γ_{20}	$P_{c\overline{c}}(4380)^+ K^-$, $P^+_{c\overline{c}} \to p J/\psi$	[a]	$(2.7 \pm 1.4) \times 10^{-5}$		DESIG=42
Γ_{21}	$P_c(4450)^+ K^-$, $P_c \to p J/\psi$	[a]	$(1.3 \pm 0.4) \times 10^{-5}$		DESIG=43
Γ_{22}	$\chi_{c1}(1P) p K^-$		$(7.6 {}^{+1.5}_{-1.3}) \times 10^{-5}$		DESIG=52
Γ_{23}	$\chi_{c1}(1P) p \pi^-$		$(5.0 {}^{+1.3}_{-1.1}) \times 10^{-6}$		DESIG=74
Γ_{24}	$\chi_{c2}(1P) p K^-$		$(7.7 {}^{+1.6}_{-1.4}) \times 10^{-5}$		DESIG=53
Γ_{25}	$\chi_{c2}(1P) p \pi^-$		$(4.8 \pm 1.9) \times 10^{-6}$		DESIG=75
Γ_{26}	$p J/\psi(1S) \pi^+ \pi^- K^-$		$(6.6 {}^{+1.3}_{-1.1}) \times 10^{-5}$		DESIG=46
Γ_{27}	$p \psi(2S) K^-$		$(6.6 {}^{+1.2}_{-1.0}) \times 10^{-5}$		DESIG=45
Γ_{28}	$\chi_{c1}(3872) p K^-$		$(2.8 \pm 1.2) \times 10^{-5}$		DESIG=67
Γ_{29}	$\chi_{c1}(3872) \Lambda(1520)$		$(1.6 \pm 0.8) \times 10^{-5}$		DESIG=66
Γ_{30}	$\psi(2S) p \pi^-$		$(7.5 {}^{+1.6}_{-1.4}) \times 10^{-6}$		DESIG=59
Γ_{31}	$p \overline{K}^0 \pi^-$		$(1.3 \pm 0.4) \times 10^{-5}$		DESIG=34
Γ_{32}	$p K^0 K^-$		$< 3.5 \times 10^{-6}$	CL=90%	DESIG=35
Γ_{33}	$\Lambda_c^+ \pi^-$		$(4.9 \pm 0.4) \times 10^{-3}$	S=1.2	DESIG=11
Γ_{34}	$\Lambda_c^+ K^-$		$(3.56 \pm 0.28) \times 10^{-4}$	S=1.2	DESIG=29
Γ_{35}	$\Lambda_c^+ a_1(1260)^-$		seen		DESIG=12
Γ_{36}	$\Lambda_c^+ D^-$		$(4.6 \pm 0.6) \times 10^{-4}$		DESIG=31
Γ_{37}	$\Lambda_c^+ D_s^-$		(1.10 ± 0.10) %		DESIG=30
Γ_{38}	$\Lambda_c^+ D_s^{*-}$		(1.83 ± 0.18) %		DESIG=82
Γ_{39}	$\Lambda_c^+ \overline{D}^0 K^-$		$(2.13 \pm 0.20) \times 10^{-3}$		DESIG=83
Γ_{40}	$\Lambda_c^+ \overline{D}^{*0} K^-$		$(6.6 \pm 0.7) \times 10^{-3}$		DESIG=84
Γ_{41}	$\Lambda_c^+ \pi^+ \pi^- \pi^-$		$(7.6 \pm 1.1) \times 10^{-3}$	S=1.1	DESIG=4
Γ_{42}	$\Lambda_c(2595)^+ \pi^-$, $\Lambda_c(2595)^+ \to \Lambda_c^+ \pi^+ \pi^-$		$(3.4 \pm 1.4) \times 10^{-4}$		DESIG=22
Γ_{43}	$\Lambda_c(2625)^+ \pi^-$, $\Lambda_c(2625)^+ \to \Lambda_c^+ \pi^+ \pi^-$		$(3.3 \pm 1.3) \times 10^{-4}$		DESIG=23
Γ_{44}	$\Sigma_c(2455)^0 \pi^+ \pi^-$, $\Sigma_c^0 \to \Lambda_c^+ \pi^-$		$(5.7 \pm 2.2) \times 10^{-4}$		DESIG=24
Γ_{45}	$\Sigma_c(2455)^{++} \pi^- \pi^-$, $\Sigma_c^{++} \to \Lambda_c^+ \pi^+$		$(3.2 \pm 1.5) \times 10^{-4}$		DESIG=25
Γ_{46}	$\Sigma_c(2455)^{++} D^- K^-$		$(6.0 \pm 0.8) \times 10^{-4}$		DESIG=86
Γ_{47}	$\Sigma_c(2455)^{++} D^{*-} K^-$		$(1.36 \pm 0.22) \times 10^{-3}$		DESIG=85
Γ_{48}	$\Sigma_c(2520)^{++} D^- K^-$		$(2.8 \pm 0.5) \times 10^{-4}$		DESIG=88
Γ_{49}	$\Sigma_c(2520)^{++} D^{*-} K^-$		$(5.4 \pm 1.1) \times 10^{-4}$		DESIG=87
Γ_{50}	$\Lambda_c^+ K^+ K^- \pi^-$		$(1.02 \pm 0.11) \times 10^{-3}$		DESIG=73
Γ_{51}	$\Lambda_c^+ p \overline{p} \pi^-$		$(2.63 \pm 0.27) \times 10^{-4}$		DESIG=62
Γ_{52}	$\Sigma_c(2455)^0 p \overline{p}$, $\Sigma_c^0 \to \Lambda_c^+ \pi^-$		$(2.3 \pm 0.5) \times 10^{-5}$		DESIG=63
Γ_{53}	$\Sigma_c(2520)^0 p \overline{p}$, $\Sigma_c(2520)^0 \to \Lambda_c^+ \pi^-$		$(3.1 \pm 0.7) \times 10^{-5}$		DESIG=64
Γ_{54}	$\Lambda K^0 2\pi^+ 2\pi^-$				DESIG=2

Γ_{55}	$\Lambda_c^+ \ell^- \overline{\nu}_\ell$ anything	[b]	(10.9 ± 2.2) %		DESIG=6
Γ_{56}	$\Lambda_c^+ \ell^- \overline{\nu}_\ell$		$(6.2\ {}^{+1.4}_{-1.3})$ %		DESIG=15
Γ_{57}	$\Lambda_c^+ \tau^- \overline{\nu}_\tau$		(1.9 ± 0.5) %		DESIG=78
Γ_{58}	$\Lambda_c^+ \pi^+ \pi^- \ell^- \overline{\nu}_\ell$		(5.6 ± 3.1) %		DESIG=16
Γ_{59}	$\Lambda_c(2595)^+ \ell^- \overline{\nu}_\ell$		$(7.9\ {}^{+4.0}_{-3.5}) \times 10^{-3}$		DESIG=18
Γ_{60}	$\Lambda_c(2625)^+ \ell^- \overline{\nu}_\ell$		$(1.3\ {}^{+0.6}_{-0.5})$ %		DESIG=19
Γ_{61}	$\Sigma_c(2455)^0 \pi^+ \ell^- \overline{\nu}_\ell$				DESIG=20
Γ_{62}	$\Sigma_c(2455)^{++} \pi^- \ell^- \overline{\nu}_\ell$				DESIG=21
Γ_{63}	$p h^-$	[c]	$< 2.3 \times 10^{-5}$	CL=90%	DESIG=17
Γ_{64}	$p \pi^-$		$(4.6 \pm 0.8) \times 10^{-6}$		DESIG=9
Γ_{65}	$p K^-$		$(5.5 \pm 1.0) \times 10^{-6}$		DESIG=10
Γ_{66}	$p D_s^-$		$(1.25 \pm 0.13) \times 10^{-5}$		DESIG=36
Γ_{67}	$p \mu^- \overline{\nu}_\mu$		$(4.1 \pm 1.0) \times 10^{-4}$		DESIG=41
Γ_{68}	$\Lambda \mu^+ \mu^-$		$(1.08 \pm 0.28) \times 10^{-6}$		DESIG=26
Γ_{69}	$p \pi^- \mu^+ \mu^-$		$(6.9 \pm 2.5) \times 10^{-8}$		DESIG=54
Γ_{70}	$p K^- e^+ e^-$		$(3.1 \pm 0.6) \times 10^{-7}$		DESIG=68
Γ_{71}	$p K^- \mu^+ \mu^-$		$(2.6\ {}^{+0.5}_{-0.4}) \times 10^{-7}$		DESIG=69
Γ_{72}	$\Lambda(1520)^0 \mu^+ \mu^-$				DESIG=81
Γ_{73}	$\Lambda \gamma$		$(7.1 \pm 1.7) \times 10^{-6}$		DESIG=13
Γ_{74}	$\overline{p} K^- \gamma$				DESIG=104
Γ_{75}	$\Lambda(1405)^0 \gamma$				DESIG=90
Γ_{76}	$\Lambda(1520)^0 \gamma$				DESIG=91
Γ_{77}	$\Lambda(1600)^0 \gamma$				DESIG=92
Γ_{78}	$\Lambda(1670)^0 \gamma$				DESIG=93
Γ_{79}	$\Lambda(1690)^0 \gamma$				DESIG=94
Γ_{80}	$\Lambda(1800)^0 \gamma$				DESIG=95
Γ_{81}	$\Lambda(1810)^0 \gamma$				DESIG=96
Γ_{82}	$\Lambda(1820)^0 \gamma$				DESIG=97
Γ_{83}	$\Lambda(1830)^0 \gamma$				DESIG=98
Γ_{84}	$\Lambda(1890)^0 \gamma$				DESIG=99
Γ_{85}	$\Lambda(2100)^0 \gamma$				DESIG=100
Γ_{86}	$\Lambda(2110)^0 \gamma$				DESIG=101
Γ_{87}	$\Lambda(2530)^0 \gamma$				DESIG=102
Γ_{88}	$(\overline{p} K^-)$ nonresonant γ				DESIG=103
Γ_{89}	$\Lambda \eta$		$(9\ {}^{+7}_{-5}) \times 10^{-6}$		DESIG=37
Γ_{90}	$\Lambda \eta'(958)$		$< 3.1 \times 10^{-6}$	CL=90%	DESIG=38
Γ_{91}	$\Lambda \pi^+ \pi^-$		$(4.6 \pm 1.9) \times 10^{-6}$		DESIG=47
Γ_{92}	$\Lambda K^+ \pi^-$		$(5.7 \pm 1.2) \times 10^{-6}$		DESIG=48
Γ_{93}	$\Lambda K^+ K^-$		$(1.61 \pm 0.22) \times 10^{-5}$		DESIG=49
Γ_{94}	$\Lambda D^+ D^-$		$(1.24 \pm 0.35) \times 10^{-4}$		DESIG=89
Γ_{95}	$\Lambda \phi$		$(9.8 \pm 2.6) \times 10^{-6}$		DESIG=44
Γ_{96}	$p \pi^- \pi^+ \pi^-$		$(2.12 \pm 0.21) \times 10^{-5}$		DESIG=50
Γ_{97}	$p K^- K^+ \pi^-$		$(4.1 \pm 0.6) \times 10^{-6}$		DESIG=51
Γ_{98}	$p K^- \pi^+ \pi^-$		$(5.1 \pm 0.5) \times 10^{-5}$		DESIG=60
Γ_{99}	$p K^- K^+ K^-$		$(1.27 \pm 0.13) \times 10^{-5}$		DESIG=61

[a] P_c^+ is a pentaquark-charmonium state. LINKAGE=PTQ

[b] Not a pure measurement. See note at head of Λ_b^0 Decay Modes. LINKAGE=X40

[c] Here h^- means π^- or K^-. LINKAGE=HEX

FIT INFORMATION

An overall fit to 10 branching ratios uses 12 measurements to determine 6 parameters. The overall fit has a $\chi^2 = 10.8$ for 6 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, $x_i \equiv \Gamma_i/\Gamma_{total}$.

x_{34}	92				
x_{41}	46	43			
x_{56}	13	12	6		
x_{64}	0	0	0	0	
x_{65}	0	0	0	0	82
	x_{33}	x_{34}	x_{41}	x_{56}	x_{64}

Λ_b^0 BRANCHING RATIOS

NODE=S040215

$\Gamma(J/\psi(1S)\Lambda \times B(b \to \Lambda_b^0))/\Gamma_{total}$ — Γ_1/Γ

NODE=S040R3
NODE=S040R3

VALUE (units 10^{-5})	EVTS	DOCUMENT ID		TECN	COMMENT	
5.8 ± 0.8 OUR AVERAGE						
6.01 ± 0.60 ± 0.58 ± 0.28		[1] ABAZOV	11O	D0	$p\bar{p}$ at 1.96 TeV	SYCLP=A
4.7 ± 2.3 ± 0.2		[2] ABE	97B	CDF	$p\bar{p}$ at 1.8 TeV	SYCLP=A
• • • We do not use the following data for averages, fits, limits, etc. • • •						
180 ±60 ±90	16	ALBAJAR	91E	UA1	$p\bar{p}$ at 630 GeV	

[1] ABAZOV 11O uses $B(B^0 \to J/\psi K_S^0) \times B(b \to B^0) = (1.74 \pm 0.08) \times 10^{-4}$ to obtain the result. The $(\pm 0.08) \times 10^{-4}$ uncertainty of this product is listed as the last uncertainty of the measurement, $(\pm 0.28) \times 10^{-5}$. NODE=S040R3;LINKAGE=AB

[2] ABE 97B reports $[B(\Lambda_b^0 \to J/\psi \Lambda) \times B(b \to \Lambda_b^0)] / [B(B^0 \to J/\psi K_S^0) \times B(b \to B^0)] = 0.27 \pm 0.12 \pm 0.05$. We multiply by our best value $B(B^0 \to J/\psi K_S^0) \times B(b \to B^0) = (1.74 \pm 0.08) \times 10^{-4}$. Our first error is their experiment error and our second error is the systematic error from using our best value. NODE=S040R3;LINKAGE=B

$\Gamma(\psi(2S)\Lambda)/\Gamma(J/\psi(1S)\Lambda)$ — Γ_4/Γ_2

NODE=S040R31
NODE=S040R31

VALUE	DOCUMENT ID		TECN	COMMENT
0.508±0.023 OUR AVERAGE				
0.513±0.023±0.019	[1] AAIJ	19F	LHCB	pp at 7, 8 TeV
0.50 ±0.03 ±0.02	[2] AAD	15CH	ATLS	pp at 8 TeV

[1] AAIJ 19F uses $B(J/\psi \to \mu^+\mu^-) = (5.961 \pm 0.033) \times 10^{-2}$ and $B(\psi(2S) \to e^+e^-) = (7.93 \pm 0.17) \times 10^{-3}$ from PDG 18 with assumption of lepton universality. AAIJ 19F reports this result as $0.513 \pm 0.023 \pm 0.016 \pm 0.011$, where the last uncertainty is the contribution due to the external input of branching fractions used in the analysis. NODE=S040R31;LINKAGE=B

[2] AAD 15CH uses $B(J/\psi \to \mu^+\mu^-) = (5.961 \pm 0.033) \times 10^{-2}$ and $B(\psi(2S) \to \mu^+\mu^-) = (7.89 \pm 0.17) \times 10^{-3}$ from PDG 14 with assumption of lepton universality. NODE=S040R31;LINKAGE=A

$\Gamma(J/\psi(1S)\Lambda\phi)/\Gamma(\psi(2S)\Lambda)$ — Γ_3/Γ_4

NODE=S040R65
NODE=S040R65

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
8.26±0.90±0.69	SIRUNYAN	20H	CMS	pp at 13 TeV

$\Gamma(pD^0\pi^-)/\Gamma_{total}$ — Γ_5/Γ

NODE=S040R1
NODE=S040R1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	52	BARI	91	SFM	$D^0 \to K^-\pi^+$
seen		BASILE	81	SFM	$D^0 \to K^-\pi^+$

$\Gamma(pD^+\pi^-\pi^-)/\Gamma(\Lambda_c^+\pi^+\pi^-\pi^-)$ — Γ_6/Γ_{41}

NODE=S040R75
NODE=S040R75

VALUE (%)	DOCUMENT ID		TECN	COMMENT
$3.62 \pm 0.18^{+0.15}_{-0.16}$	[1] AAIJ	22R	LHCB	pp at 7 and 8 TeV

[1] AAIJ 22R reports $[\Gamma(\Lambda_b^0 \to pD^+\pi^-\pi^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^+\pi^-\pi^-)] \times [B(D^+ \to K^-2\pi^+)] / [B(\Lambda_c^+ \to pK^-\pi^+)] = 5.35 \pm 0.21 \pm 0.16$ % which we multiply or divide by our best values $B(D^+ \to K^-2\pi^+) = (9.38 \pm 0.16) \times 10^{-2}$, $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.25) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values. NODE=S040R75;LINKAGE=A

$\Gamma(pD^*(2010)^+\pi^-\pi^-)/\Gamma(pD^+\pi^-\pi^-)$ Γ_7/Γ_6

NODE=S040R76

VALUE	DOCUMENT ID	TECN	COMMENT
1.90±0.19	[1] AAIJ 22R	LHCB	pp at 7 and 8 TeV

[1] AAIJ 22R uses partial reconstruction of $pD^+\pi^-\pi^-$ final state.

NODE=S040R76;LINKAGE=A

$\Gamma(\Lambda_c(2860)^+\pi^-,\ \Lambda_c^+\to D^0p)/\Gamma(\Lambda_c(2880)^+\pi^-,\ \Lambda_c^+\to D^0p)$ Γ_8/Γ_9

NODE=S040R48

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{4.54^{+0.51}_{-0.39}{}^{+0.21}_{-0.59}}$	AAIJ 17S	LHCB	pp at 7, 8 TeV

$\Gamma(\Lambda_c(2940)^+\pi^-,\ \Lambda_c^+\to D^0p)/\Gamma(\Lambda_c(2880)^+\pi^-,\ \Lambda_c^+\to D^0p)$ Γ_{10}/Γ_9

NODE=S040R49

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.83^{+0.31}_{-0.10}{}^{+0.18}_{-0.43}}$	AAIJ 17S	LHCB	pp at 7, 8 TeV

$\Gamma(pD^0K^-)/\Gamma(pD^0\pi^-)$ Γ_{11}/Γ_5

NODE=S040R22

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$\mathbf{7.3\pm0.8^{+0.5}_{-0.6}}$	AAIJ 14H	LHCB	pp at 7 TeV

$\Gamma(pDK^-,\ D\to K^-\pi^+)/\Gamma(pDK^-,\ D\to K^+\pi^-)$ Γ_{12}/Γ_{13}

NODE=S040R73

VALUE	DOCUMENT ID	TECN	COMMENT
$\mathbf{7.1\pm0.8^{+0.4}_{-0.3}}$	[1] AAIJ 21AD	LHCB	pp at 7, 8, 13 TeV

[1] Measured in the full phase space.

NODE=S040R73;LINKAGE=A

$\Gamma(pJ/\psi\pi^-)/\Gamma(pJ/\psi K^-)$ Γ_{14}/Γ_{16}

NODE=S040R26

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
8.24±0.25±0.42	AAIJ 14K	LHCB	pp at 7, 8 TeV

$\Gamma(pJ/\psi K^-)/\Gamma_{total}$ Γ_{16}/Γ

NODE=S040R36

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
$\mathbf{3.17\pm0.04^{+0.57}_{-0.45}}$	[1] AAIJ 16A	LHCB	pp at 7, 8 TeV

[1] AAIJ 16A reported the measurement of $(3.17 \pm 0.04 \pm 0.07 \pm 0.34^{+0.45}_{-0.28}) \times 10^{-4}$ where the first uncertainty is statistical, the second is systematic, the third is due to the branching fraction of $B^0 \to J/\psi K^*(892)^0$, and the fourth is due to the knowledge of f_{Λ_b}/f_d. We combined in quadrature second to fourth uncertainties to a total systematic uncertainty.

NODE=S040R36;LINKAGE=A

$\Gamma(J/\psi\Xi^-K^+)/\Gamma(\psi(2S)\Lambda)$ Γ_{17}/Γ_4

NODE=S040P06

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
3.38±1.19±0.03	[1] HAYRAPETY...24BA	CMS	pp at 13 TeV

[1] HAYRAPETYAN 24BA reports $(3.38 \pm 1.02 \pm 0.61 \pm 0.03) \times 10^{-2}$ from a measurement of $[\Gamma(\Lambda_b^0 \to J/\psi\Xi^-K^+)/\Gamma(\Lambda_b^0 \to \psi(2S)\Lambda)] \times [B(\Xi^- \to \Lambda\pi^-)]$ / $[B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)]$ assuming $B(\Xi^- \to \Lambda\pi^-) = (99.887 \pm 0.035) \times 10^{-2}$, $B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-) = (34.68 \pm 0.30) \times 10^{-2}$, which we rescale to our best values $B(\Xi^- \to \Lambda\pi^-) = (99.887 \pm 0.035) \times 10^{-2}$, $B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-) = (34.69 \pm 0.34) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040P06;LINKAGE=A

$\Gamma(p\eta_c(1S)K^-)/\Gamma(pJ/\psi K^-)$ Γ_{18}/Γ_{16}

NODE=S040R66

VALUE	DOCUMENT ID	TECN	COMMENT
0.333±0.050±0.037	[1] AAIJ 20AK	LHCB	pp at 13 TeV

[1] AAIJ 20AK reported the measurement of $0.333 \pm 0.050 \pm 0.019 \pm 0.032$, where the last uncertainty is due uncertainties of the used branching fractions of $J/\psi \to p\overline{p}$ and $\eta_c \to p\overline{p}$ decays. We combined in quadrature the systematic uncertainties.

NODE=S040R66;LINKAGE=A

$\Gamma(P_{c\overline{c}}(4312)^+K^-,\ P_{c\overline{c}}^+\to p\eta_c(1S))/\Gamma(p\eta_c(1S)K^-)$ Γ_{19}/Γ_{18}

NODE=S040R67

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.24	95	AAIJ 20AK	LHCB	pp at 13 TeV

$\Gamma\big(P_{c\overline{c}}(4380)^+ K^-,\ P^+_{c\overline{c}} \to pJ/\psi\big)/\Gamma_{\text{total}}$ Γ_{20}/Γ

NODE=S040R37

P^+_c is a pentaquark-charmonium state.

NODE=S040R37
NODE=S040R37

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
$2.66 \pm 0.22^{+1.41}_{-1.38}$	[1] AAIJ	16A	LHCB	pp at 7, 8 TeV

[1] AAIJ 16 total systematic includes the uncertainties on f(P^+_c) and B($\Lambda_b \to pJ/\psi K^-$).

NODE=S040R37;LINKAGE=A

$\Gamma\big(P_c(4450)^+ K^-,\ P_c \to pJ/\psi\big)/\Gamma_{\text{total}}$ Γ_{21}/Γ

NODE=S040R38

P^+_c is a pentaquark-charmonium state.

NODE=S040R38
NODE=S040R38

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
$1.30 \pm 0.16^{+0.42}_{-0.39}$	[1] AAIJ	16A	LHCB	pp at 7, 8 TeV

[1] AAIJ 16 total systematic includes the uncertainties on f(P^+_c) and B($\Lambda_b \to pJ/\psi K^-$).

NODE=S040R38;LINKAGE=A

$\Gamma\big(\chi_{c1}(1P)pK^-\big)/\Gamma\big(pJ/\psi K^-\big)$ Γ_{22}/Γ_{16}

NODE=S040R44
NODE=S040R44

VALUE	DOCUMENT ID		TECN	COMMENT
$0.239 \pm 0.019 \pm 0.009$	[1] AAIJ	17AM	LHCB	pp at 7, 8 TeV

[1] AAIJ 17AM reports $0.242 \pm 0.014 \pm 0.016$ from a measurement of $[\Gamma(\Lambda^0_b \to \chi_{c1}(1P)pK^-)/\Gamma(\Lambda^0_b \to pJ/\psi K^-)] \times [B(\chi_{c1}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (33.9 \pm 1.2) \times 10^{-2}$, which we rescale to our best value $B(\chi_{c1}(1P) \to \gamma J/\psi(1S)) = (34.3 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R44;LINKAGE=A

$\Gamma\big(\chi_{c1}(1P)p\pi^-\big)/\Gamma\big(\chi_{c1}(1P)pK^-\big)$ Γ_{23}/Γ_{22}

NODE=S040R70
NODE=S040R70

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$6.59 \pm 1.01 \pm 0.22$	AAIJ	21R	LHCB	pp at 13 TeV

$\Gamma\big(\chi_{c2}(1P)pK^-\big)/\Gamma\big(pJ/\psi K^-\big)$ Γ_{24}/Γ_{16}

NODE=S040R45
NODE=S040R45

VALUE	DOCUMENT ID		TECN	COMMENT
$0.244 \pm 0.024 \pm 0.009$	[1] AAIJ	17AM	LHCB	pp at 7, 8 TeV

[1] AAIJ 17AM reports $0.248 \pm 0.02 \pm 0.017$ from a measurement of $[\Gamma(\Lambda^0_b \to \chi_{c2}(1P)pK^-)/\Gamma(\Lambda^0_b \to pJ/\psi K^-)] \times [B(\chi_{c2}(1P) \to \gamma J/\psi(1S))]$ assuming $B(\chi_{c2}(1P) \to \gamma J/\psi(1S)) = (19.2 \pm 0.7) \times 10^{-2}$, which we rescale to our best value $B(\chi_{c2}(1P) \to \gamma J/\psi(1S)) = (19.5 \pm 0.7) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R45;LINKAGE=A

$\Gamma\big(\chi_{c2}(1P)pK^-\big)/\Gamma\big(\chi_{c1}(1P)pK^-\big)$ Γ_{24}/Γ_{22}

NODE=S040R71
NODE=S040R71

VALUE	DOCUMENT ID		TECN	COMMENT
$1.06 \pm 0.05 \pm 0.04 \pm 0.04$	[1] AAIJ	21R	LHCB	pp at 13 TeV

[1] The first uncertainty is statistical, the second is systematic and the third is related to the uncertainties in the branching fractions of the $\chi_{cJ} \to J/\psi\gamma$ decays.

NODE=S040R71;LINKAGE=A

$\Gamma\big(\chi_{c2}(1P)p\pi^-\big)/\Gamma\big(\chi_{c1}(1P)p\pi^-\big)$ Γ_{25}/Γ_{23}

NODE=S040R72
NODE=S040R72

VALUE	DOCUMENT ID		TECN	COMMENT
$0.95 \pm 0.30 \pm 0.04 \pm 0.04$	[1] AAIJ	21R	LHCB	pp at 13 TeV

[1] Evidence for the $\Lambda^0_b \to \chi_{c2}p\pi^-$ decay is obtained with a significance of 3.5 standard deviations. The first uncertainty is statistical, the second is systematic and the third is related to the uncertainties in the branching fractions of the $\chi_{cJ} \to J/\psi\gamma$ decays.

NODE=S040R72;LINKAGE=A

$\Gamma\big(pJ/\psi(1S)\pi^+\pi^-K^-\big)/\Gamma\big(pJ/\psi K^-\big)$ Γ_{26}/Γ_{16}

NODE=S040R40
NODE=S040R40

VALUE	DOCUMENT ID		TECN	COMMENT
$0.2086 \pm 0.0096 \pm 0.0134$	[1] AAIJ	16Y	LHCB	pp at 7, 8 TeV

[1] Excludes $\psi(2S) \to J/\psi\pi^+\pi^-$.

NODE=S040R40;LINKAGE=A

$\Gamma\big(p\psi(2S)K^-\big)/\Gamma\big(pJ/\psi K^-\big)$ Γ_{27}/Γ_{16}

NODE=S040R39
NODE=S040R39

VALUE	DOCUMENT ID		TECN	COMMENT
$0.2070 \pm 0.0076 \pm 0.0059$	[1] AAIJ	16Y	LHCB	pp at 7, 8 TeV

[1] AAIJ 16Y reports a measurement of $0.2070 \pm 0.0076 \pm 0.0046 \pm 0.0037$ where the third uncertainty is due to the knowledge of J/ψ and $\psi(2S)$ branching fractions. We have combined both systematic uncertainties in quadrature.

NODE=S040R39;LINKAGE=A

$\Gamma\big(\chi_{c1}(3872)\Lambda(1520)\big)/\Gamma\big(\chi_{c1}(3872)pK^-\big)$ Γ_{29}/Γ_{28}

NODE=S040R59
NODE=S040R59

VALUE	DOCUMENT ID		TECN	COMMENT
0.58 ± 0.15	AAIJ	19AN	LHCB	pp at 7, 8, 13 TeV

$\Gamma(\chi_{c1}(3872)pK^-)/\Gamma(p\psi(2S)K^-)$ Γ_{28}/Γ_{27}

NODE=S040R58
NODE=S040R58

VALUE	DOCUMENT ID		TECN	COMMENT
0.43±0.09±0.14	[1] AAIJ	19AN	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 19AN reports $[\Gamma(\Lambda_b^0 \to \chi_{c1}(3872)pK^-)/\Gamma(\Lambda_b^0 \to p\psi(2S)K^-)] \times [B(\chi_{c1}(3872) \to \pi^+\pi^- J/\psi(1S))] / [B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-)] = (5.4 \pm 1.1 \pm 0.2) \times 10^{-2}$ which we multiply or divide by our best values $B(\chi_{c1}(3872) \to \pi^+\pi^- J/\psi(1S)) = (4.3 \pm 1.4) \times 10^{-2}$, $B(\psi(2S) \to J/\psi(1S)\pi^+\pi^-) = (34.69 \pm 0.34) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040R58;LINKAGE=A

$\Gamma(\psi(2S)p\pi^-)/\Gamma(p\psi(2S)K^-)$ Γ_{30}/Γ_{27}

NODE=S040R50
NODE=S040R50

VALUE (%)	DOCUMENT ID		TECN	COMMENT
11.4±1.3±0.2	AAIJ	18AF	LHCB	pp at 7, 8, 13 TeV

$\Gamma(p\overline{K}^0\pi^-)/\Gamma_{total}$ Γ_{31}/Γ

NODE=S040R27
NODE=S040R27

VALUE (units 10^{-5})	DOCUMENT ID		TECN	COMMENT
1.26±0.19±0.36	[1] AAIJ	14Q	LHCB	pp at 7 TeV

[1] Used the normalizing mode branching fraction value of $B(B^0 \to K^0\pi^+\pi^-) = (4.96 \pm 0.20) \times 10^{-5}$.

NODE=S040R27;LINKAGE=AA

$\Gamma(pK^0K^-)/\Gamma_{total}$ Γ_{32}/Γ

NODE=S040R28
NODE=S040R28

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<3.5 × 10⁻⁶	90	AAIJ	14Q	LHCB	pp at 7 TeV

$\Gamma(\Lambda_c^+\pi^-)/\Gamma_{total}$ Γ_{33}/Γ

NODE=S040R11
NODE=S040R11

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
4.9 ±0.4 OUR FIT Error includes scale factor of 1.2.					
4.8 ±0.5 OUR AVERAGE Error includes scale factor of 1.5.					
$4.60^{+0.31}_{-0.30}\pm0.14$		[1] AAIJ	14I	LHCB	pp at 7 TeV
5.97±0.28±0.81		[2] AAIJ	14Q	LHCB	pp at 7 TeV
8.8 ±2.8 ±1.5		[3] ABULENCIA	07B	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	3	ABREU	96N	DLPH	$\Lambda_c^+ \to pK^-\pi^+$
seen	4	BUSKULIC	96L	ALEP	$\Lambda_c^+ \to pK^-\pi^+$, $p\overline{K}^0$, $\Lambda\pi^+\pi^+\pi^-$

OCCUR=4

[1] AAIJ 14I reports $(4.30 \pm 0.03^{+0.12}_{-0.11} \pm 0.26 \pm 0.21) \times 10^{-3}$ from a measurement of $[\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)/\Gamma_{total}] \times [B(B^0 \to D^-\pi^+)]$ assuming $B(B^0 \to D^-\pi^+) = (2.68 \pm 0.13) \times 10^{-3}$, which we rescale to our best value $B(B^0 \to D^-\pi^+) = (2.51 \pm 0.08) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Uses information on f_{baryon}/f_d from measurement in semileptonic decays by the same authors.

NODE=S040R11;LINKAGE=E

[2] Obtained using the branching fraction of $\Lambda_c^+ \to pK^-\pi^+$ decay.

NODE=S040R11;LINKAGE=AA

[3] The result is obtained from (f_{baryon}/f_d) $(B(\Lambda_b^0 \to \Lambda_c^+\pi^-)/B(\overline{B}^0 \to D^+\pi^-)) = 0.82 \pm 0.08 \pm 0.11 \pm 0.22$, assuming $f_{baryon}/f_d = 0.25 \pm 0.04$ and $B(\overline{B}^0 \to D^+\pi^-) = (2.68 \pm 0.13) \times 10^{-3}$.

NODE=S040R11;LINKAGE=AB

$\Gamma(pD^0\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ Γ_5/Γ_{33}

NODE=S040R21
NODE=S040R21

VALUE	DOCUMENT ID		TECN	COMMENT
0.130±0.007±0.005	[1] AAIJ	14H	LHCB	pp at 7 TeV

[1] AAIJ 14H reports $[\Gamma(\Lambda_b^0 \to pD^0\pi^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)] \times [B(D^0 \to K^-\pi^+)] / [B(\Lambda_c^+ \to pK^-\pi^+)] = (8.06 \pm 0.23 \pm 0.35) \times 10^{-2}$ which we multiply or divide by our best values $B(D^0 \to K^-\pi^+) = (3.945 \pm 0.030) \times 10^{-2}$, $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.25) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040R21;LINKAGE=AA

$\Gamma(\Lambda_c^+K^-)/\Gamma_{total}$ Γ_{34}/Γ

NODE=S040R29
NODE=S040R29

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
3.56±0.28 OUR FIT Error includes scale factor of 1.2.				
3.55±0.44±0.50	[1] AAIJ	14Q	LHCB	pp at 7 TeV

[1] Obtained using the branching fraction of $\Lambda_c^+ \to pK^-\pi^+$ decay.

NODE=S040R29;LINKAGE=AA

$\Gamma(\Lambda_c^+ K^-)/\Gamma(\Lambda_c^+ \pi^-)$ — Γ_{34}/Γ_{33}

NODE=S040R23

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
7.31±0.22 OUR FIT				
7.31±0.16±0.16	AAIJ	14H	LHCB	pp at 7 TeV

$\Gamma(\Lambda_c^+ a_1(1260)^-)/\Gamma_{total}$ — Γ_{35}/Γ

NODE=S040R12

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	1	ABREU	96N	DLPH	$\Lambda_c^+ \to pK^-\pi^+$, $a_1^- \to \rho^0\pi^- \to \pi^+\pi^-\pi^-$

$\Gamma(\Lambda_c^+ D_s^-)/\Gamma_{total}$ — Γ_{37}/Γ

NODE=S040R24

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.1±0.1	[1] AAIJ	14AA	LHCB	pp at 7 TeV

[1] Uses $B(\overline{B}^0 \to D^+ D_s^-) = (7.2 \pm 0.8) \times 10^{-3}$ and their measured $B(\Lambda_b^0 \to \Lambda_c^+ \pi^-))/B(\overline{B}^0 \to D^+\pi^-)$ values.

NODE=S040R24;LINKAGE=A

$\Gamma(\Lambda_c^+ D^-)/\Gamma(\Lambda_c^+ D_s^-)$ — Γ_{36}/Γ_{37}

NODE=S040R25

VALUE	DOCUMENT ID		TECN	COMMENT
0.042±0.003±0.003	AAIJ	14AA	LHCB	pp at 7 TeV

$\Gamma(\Lambda_c^+ D_s^{*-})/\Gamma(\Lambda_c^+ D_s^-)$ — Γ_{38}/Γ_{37}

NODE=S040R78

VALUE	DOCUMENT ID		TECN	COMMENT
$1.668\pm0.022^{+0.061}_{-0.055}$	AAIJ	24X	LHCB	pp at 13 TeV

$\Gamma(\Lambda_c^+ \overline{D}^0 K^-)/\Gamma(\Lambda_c^+ D_s^-)$ — Γ_{39}/Γ_{37}

NODE=S040R79

VALUE	DOCUMENT ID		TECN	COMMENT
0.193±0.004±0.003	[1] AAIJ	24X	LHCB	pp at 13 TeV

[1] AAIJ 24X reports $[\Gamma(\Lambda_b^0 \to \Lambda_c^+ \overline{D}^0 K^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+ D_s^-)] \times [B(D^0 \to K^-\pi^+)] / [B(D_s^+ \to K^+K^-\pi^+)] = 0.1400^{+0.0026}_{-0.0025}{}^{+0.0012}_{-0.0013}$ which we multiply or divide by our best values $B(D^0 \to K^-\pi^+) = (3.945 \pm 0.030) \times 10^{-2}$, $B(D_s^+ \to K^+K^-\pi^+) = (5.45 \pm 0.08) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040R79;LINKAGE=A

$\Gamma(\Lambda_c^+ \overline{D}^{*0} K^-)/\Gamma(\Lambda_c^+ D_s^-)$ — Γ_{40}/Γ_{37}

NODE=S040R80

VALUE	DOCUMENT ID		TECN	COMMENT
$0.597^{+0.025}_{-0.024}\pm0.010$	[1] AAIJ	24X	LHCB	pp at 13 TeV

[1] AAIJ 24X reports $[\Gamma(\Lambda_b^0 \to \Lambda_c^+ \overline{D}^{*0} K^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+ D_s^-)] \times [B(D^0 \to K^-\pi^+)] / [B(D_s^+ \to K^+K^-\pi^+)] = 0.432^{+0.013}_{-0.012} \pm 0.013$ which we multiply or divide by our best values $B(D^0 \to K^-\pi^+) = (3.945 \pm 0.030) \times 10^{-2}$, $B(D_s^+ \to K^+K^-\pi^+) = (5.45 \pm 0.08) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040R80;LINKAGE=A

$\Gamma(\Lambda_c^+ \overline{D}^{*0} K^-)/\Gamma(\Lambda_c^+ \overline{D}^0 K^-)$ — Γ_{40}/Γ_{39}

NODE=S040R81

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$3.09^{+0.11}_{-0.10}{}^{+0.09}_{-0.10}$	AAIJ	24X	LHCB	pp at 13 TeV

$\Gamma(\Lambda_c^+ \pi^+\pi^-\pi^-)/\Gamma_{total}$ — Γ_{41}/Γ

NODE=S040R4

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
7.6±1.1 OUR FIT Error includes scale factor of 1.1.					
$14.8^{+3.8}_{-3.1}\pm1.1$		[1] AALTONEN	12A	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	90	BARI	91	SFM	$\Lambda_c^+ \to pK^-\pi^+$

[1] AALTONEN 12A reports $[\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^+\pi^-\pi^-)/\Gamma_{total}] / [B(\Lambda_b^0 \to \Lambda_c^+\pi^-)] = 3.04 \pm 0.33^{+0.70}_{-0.55}$ which we multiply by our best value $B(\Lambda_b^0 \to \Lambda_c^+\pi^-) = (4.9 \pm 0.4) \times 10^{-3}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R4;LINKAGE=AA

$\Gamma(\Lambda_c^+\pi^+\pi^-\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ — Γ_{41}/Γ_{33}

NODE=S040R05

VALUE	DOCUMENT ID		TECN	COMMENT
1.57±0.21 OUR FIT				
1.43±0.16±0.13	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(\Lambda_c(2595)^+\pi^-, \Lambda_c(2595)^+ \to \Lambda_c^+\pi^+\pi^-)/\Gamma(\Lambda_c^+\pi^+\pi^-\pi^-)$ — Γ_{42}/Γ_{41}

NODE=S040R06

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$4.4\pm1.7^{+0.6}_{-0.4}$	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(\Lambda_c(2625)^+\pi^-, \Lambda_c(2625)^+ \to \Lambda_c^+\pi^+\pi^-)/\Gamma(\Lambda_c^+\pi^+\pi^-\pi^-)$ — Γ_{43}/Γ_{41}

NODE=S040R07

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
4.3±1.5±0.4	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(\Sigma_c(2455)^0\pi^+\pi^-, \Sigma_c^0 \to \Lambda_c^+\pi^-)/\Gamma(\Lambda_c^+\pi^+\pi^-\pi^-)$ — Γ_{44}/Γ_{41}

NODE=S040R08

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
7.4±2.4±1.2	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(\Sigma_c(2455)^{++}\pi^-\pi^-, \Sigma_c^{++} \to \Lambda_c^+\pi^+)/\Gamma(\Lambda_c^+\pi^+\pi^-\pi^-)$ — Γ_{45}/Γ_{41}

NODE=S040R09

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
4.2±1.8±0.7	AAIJ	11E	LHCB	pp at 7 TeV

$\Gamma(\Sigma_c(2455)^{++}D^-K^-)/\Gamma(\Lambda_c^+\overline{D}^0K^-)$ — Γ_{46}/Γ_{39}

NODE=S040R82

VALUE	DOCUMENT ID		TECN	COMMENT
0.282±0.016±0.017	[1] AAIJ	24Y	LHCB	pp at 13 TeV

[1] AAIJ 24Y uses $\Sigma_c(2455)^{++} \to \Lambda_c^+\pi^+$, $D^- \to K^+\pi^-\pi^-$ and $\overline{D}^0 \to K^+\pi^-$, analyzing an integrated luminosity of 6 fb^{-1}.

NODE=S040R82;LINKAGE=A

$\Gamma(\Sigma_c(2455)^{++}D^{*-}K^-)/\Gamma(\Sigma_c(2455)^{++}D^-K^-)$ — Γ_{47}/Γ_{46}

NODE=S040R83

VALUE	DOCUMENT ID		TECN	COMMENT
2.261±0.202±0.137	[1] AAIJ	24Y	LHCB	pp at 13 TeV

[1] AAIJ 24Y uses $\Sigma_c(2455)^{++} \to \Lambda_c^+\pi^+$ and $D^- \to K^+\pi^-\pi^-$, analyzing an integrated luminosity of 6 fb^{-1}.

NODE=S040R83;LINKAGE=A

$\Gamma(\Sigma_c(2520)^{++}D^-K^-)/\Gamma(\Sigma_c(2455)^{++}D^-K^-)$ — Γ_{48}/Γ_{46}

NODE=S040R84

VALUE	DOCUMENT ID		TECN	COMMENT
0.460±0.052±0.028	[1] AAIJ	24Y	LHCB	pp at 13 TeV

[1] AAIJ 24Y uses $\Sigma_c(2455)^{++} \to \Lambda_c^+\pi^+$, $\Sigma_c(2520)^{++} \to \Lambda_c^+\pi^+$, and $D^- \to K^+\pi^-\pi^-$, analyzing an integrated luminosity of 6 fb^{-1}.

NODE=S040R84;LINKAGE=A

$\Gamma(\Sigma_c(2520)^{++}D^{*-}K^-)/\Gamma(\Sigma_c(2455)^{++}D^-K^-)$ — Γ_{49}/Γ_{46}

NODE=S040R85

VALUE	DOCUMENT ID		TECN	COMMENT
0.896±0.137±0.068	[1] AAIJ	24Y	LHCB	pp at 13 TeV

[1] AAIJ 24Y uses $\Sigma_c(2455)^{++} \to \Lambda_c^+\pi^+$, $\Sigma_c(2520)^{++} \to \Lambda_c^+\pi^+$, and $D^- \to K^+\pi^-\pi^-$ analyzing an integrated luminosity of 6 fb^{-1}.

NODE=S040R85;LINKAGE=A

$\Gamma(\Lambda_c^+K^+K^-\pi^-)/\Gamma(\Lambda_c^+D_s^-)$ — Γ_{50}/Γ_{37}

NODE=S040R68

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
9.26±0.29±0.53	[1] AAIJ	21B	LHCB	pp at 7 and 8 TeV

[1] AAIJ 21B systematic uncertainty includes the contribution from the $D_s^- \to K^+K^-\pi^-$ branching fraction.

NODE=S040R68;LINKAGE=A

$\Gamma(\Lambda_c^+p\overline{p}\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ — Γ_{51}/Γ_{33}

NODE=S040R55

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
5.40±0.23±0.32	AAIJ	18AW	LHCB	pp at 7 and 8 TeV

$\Gamma(\Sigma_c(2455)^0p\overline{p}, \Sigma_c^0 \to \Lambda_c^+\pi^-)/\Gamma(\Lambda_c^+p\overline{p}\pi^-)$ — Γ_{52}/Γ_{51}

NODE=S040R56

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
8.9±1.5±0.6	AAIJ	18AW	LHCB	pp at 7 and 8 TeV

$\Gamma(\Sigma_c(2520)^0p\overline{p}, \Sigma_c(2520)^0 \to \Lambda_c^+\pi^-)/\Gamma(\Lambda_c^+p\overline{p}\pi^-)$ — Γ_{53}/Γ_{51}

NODE=S040R57

VALUE	DOCUMENT ID		TECN	COMMENT
0.119±0.020±0.014	AAIJ	18AW	LHCB	pp at 7 and 8 TeV

$\Gamma(\Lambda K^0 2\pi^+ 2\pi^-)/\Gamma_{total}$ — Γ_{54}/Γ

NODE=S040R2
NODE=S040R2

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	4	[1] ARENTON	86	FMPS	$\Lambda K^0_S 2\pi^+ 2\pi^-$

[1] See the footnote to the ARENTON 86 mass value. NODE=S040R2;LINKAGE=B

$\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell \text{anything})/\Gamma_{total}$ — Γ_{55}/Γ

NODE=S040R6
NODE=S040R6

The values and averages in this section serve only to show what values result if one assumes our B($b \to$ b-baryon). They cannot be thought of as measurements since the underlying product branching fractions were also used to determine B($b \to$ b-baryon) as described in the note on "Production and Decay of b-Flavored Hadrons."

NODE=S040R6

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.109±0.022 OUR AVERAGE					
0.102±0.019±0.013		[1] BARATE	98D	ALEP	$e^+e^- \to Z$
$0.14\ ^{+0.05}_{-0.04}\ \pm0.02$	29	[2] ABREU	95S	DLPH	$e^+e^- \to Z$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.090±0.022±0.012	55	[3] BUSKULIC	95L	ALEP	Repl. by BARATE 98D
0.18 ±0.07 ±0.02	21	[4] BUSKULIC	92E	ALEP	$\Lambda_c^+ \to pK^-\pi^+$

[1] BARATE 98D reports $[\Gamma(\Lambda_b^0 \to \Lambda_c^+ \ell^- \overline{\nu}_\ell \text{anything})/\Gamma_{total}] \times [B(\overline{b} \to b\text{-baryon})] = 0.0086 \pm 0.0007 \pm 0.0014$ which we divide by our best value $B(\overline{b} \to b\text{-baryon}) = (8.4 \pm 1.1) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Measured using $\Lambda_c \ell^-$ and $\Lambda \ell^+ \ell^-$. NODE=S040R6;LINKAGE=KK

[2] ABREU 95S reports $[\Gamma(\Lambda_b^0 \to \Lambda_c^+ \ell^- \overline{\nu}_\ell \text{anything})/\Gamma_{total}] \times [B(\overline{b} \to b\text{-baryon})] = 0.0118 \pm 0.0026^{+0.0031}_{-0.0021}$ which we divide by our best value $B(\overline{b} \to b\text{-baryon}) = (8.4 \pm 1.1) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S040R6;LINKAGE=CA

[3] BUSKULIC 95L reports $[\Gamma(\Lambda_b^0 \to \Lambda_c^+ \ell^- \overline{\nu}_\ell \text{anything})/\Gamma_{total}] \times [B(\overline{b} \to b\text{-baryon})] = 0.00755 \pm 0.0014 \pm 0.0012$ which we divide by our best value $B(\overline{b} \to b\text{-baryon}) = (8.4 \pm 1.1) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. NODE=S040R6;LINKAGE=BL

[4] BUSKULIC 92E reports $[\Gamma(\Lambda_b^0 \to \Lambda_c^+ \ell^- \overline{\nu}_\ell \text{anything})/\Gamma_{total}] \times [B(\overline{b} \to b\text{-baryon})] = 0.015 \pm 0.0035 \pm 0.0045$ which we divide by our best value $B(\overline{b} \to b\text{-baryon}) = (8.4 \pm 1.1) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Superseded by BUSKULIC 95L. NODE=S040R6;LINKAGE=BA

$\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)/\Gamma_{total}$ — Γ_{56}/Γ

NODE=S040R15
NODE=S040R15

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.062^{+0.014}_{-0.013}}$ **OUR FIT**				
$\mathbf{0.050^{+0.011}_{-0.008}{}^{+0.016}_{-0.012}}$	[1] ABDALLAH	04A	DLPH	$e^+e^- \to Z^0$

[1] Derived from a combined likelihood and event rate fit to the distribution of the Isgur-Wise variable and using HQET. The slope of the form factor is measured to be $\rho^2 = 2.03 \pm 0.46^{+0.72}_{-1.00}$. NODE=S040R15;LINKAGE=AB

$\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)/\Gamma(\Lambda_c^+ \pi^-)$ — Γ_{56}/Γ_{33}

NODE=S040R04
NODE=S040R04

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{12.8^{+3.0}_{-2.7}}$ **OUR FIT**				
$\mathbf{16.6\pm3.0^{+2.8}_{-3.6}}$	AALTONEN	09E	CDF	$p\overline{p}$ at 1.96 TeV

$\Gamma(\Lambda_c^+ \tau^- \overline{\nu}_\tau)/\Gamma(\Lambda_c^+ \pi^+ \pi^- \pi^-)$ — Γ_{57}/Γ_{41}

NODE=S040R74
NODE=S040R74

VALUE	DOCUMENT ID		TECN	COMMENT
2.46±0.27±0.40	[1] AAIJ	22K	LHCB	pp at 7, 8 TeV

[1] Uses $\tau^- \to \pi^- \pi^+ \pi^- (\pi^0) \nu_\tau$ decays. NODE=S040R74;LINKAGE=A

$\Gamma(\Lambda_c^+ \pi^+ \pi^- \ell^- \overline{\nu}_\ell)/\Gamma_{total}$ — Γ_{58}/Γ

NODE=S040R16
NODE=S040R16

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.056^{+0.031}_{-0.030}}$	[1] ABDALLAH	04A	DLPH	$e^+e^- \to Z^0$

[1] Derived from the fraction of $\Gamma(\Lambda_b^0 \to \Lambda_c^+ \ell^- \overline{\nu}_\ell)$ / ($\Gamma(\Lambda_b^0 \to \Lambda_c^+ \ell^- \overline{\nu}_\ell)$ + $\Gamma(\Lambda_b^0 \to \Lambda_c^+ \pi^+ \pi^- \ell^- \overline{\nu}_\ell)$) $= 0.47^{+0.10}_{-0.08}{}^{+0.07}_{-0.06}$. NODE=S040R16;LINKAGE=AB

$\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)/[\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)+\Gamma(\Lambda_c^+ \pi^+ \pi^- \ell^- \overline{\nu}_\ell)]$ — $\Gamma_{56}/(\Gamma_{56}+\Gamma_{58})$

NODE=S040R17

VALUE	DOCUMENT ID		TECN	COMMENT
$0.47^{+0.10+0.07}_{-0.08-0.06}$	ABDALLAH	04A	DLPH	$e^+ e^- \rightarrow Z^0$

$\Gamma(\Lambda_c(2595)^+ \ell^- \overline{\nu}_\ell)/\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)$ — Γ_{59}/Γ_{56}

NODE=S040R01

VALUE	DOCUMENT ID		TECN	COMMENT
$0.126\pm0.033^{+0.047}_{-0.038}$	[1] AALTONEN	09E	CDF	$p\overline{p}$ at 1.96 TeV

[1] AALTONEN 09E assumes isospin conservation for $\Lambda_c(2595) \rightarrow \Lambda_c \pi^+ \pi^+$ and $\Lambda_c(2595) \rightarrow \Lambda_c \pi^0 \pi^0$. Significant isospin violation from thresholds in $\Lambda_c(2595) \rightarrow \Sigma_c(2455)\pi \rightarrow \Lambda_c \pi\pi$ may alter the recovered ratio.

NODE=S040R01;LINKAGE=A

$\Gamma(\Lambda_c(2625)^+ \ell^- \overline{\nu}_\ell)/\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)$ — Γ_{60}/Γ_{56}

NODE=S040R02

VALUE	DOCUMENT ID		TECN	COMMENT
$0.210\pm0.042^{+0.071}_{-0.050}$	AALTONEN	09E	CDF	$p\overline{p}$ at 1.96 TeV

$[\frac{1}{2}\Gamma(\Sigma_c(2455)^0 \pi^+ \ell^- \overline{\nu}_\ell)+\frac{1}{2}\Gamma(\Sigma_c(2455)^{++} \pi^- \ell^- \overline{\nu}_\ell)]/\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)$ — $(\frac{1}{2}\Gamma_{61}+\frac{1}{2}\Gamma_{62})/\Gamma_{56}$

NODE=S040R03

VALUE	DOCUMENT ID		TECN	COMMENT
$0.054\pm0.022^{+0.021}_{-0.018}$	AALTONEN	09E	CDF	$p\overline{p}$ at 1.96 TeV

$\Gamma(p h^-)/\Gamma_{total}$ — Γ_{63}/Γ

NODE=S040R18

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.3 \times 10^{-5}$	90	[1] ACOSTA	05O	CDF	$p\overline{p}$ at 1.96 TeV

[1] Assumes f_Λ / f_d = 0.25, and equal momentum distribution for Λ_b and B mesons.

NODE=S040R18;LINKAGE=AC

$\Gamma(p\pi^-)/\Gamma_{total}$ — Γ_{64}/Γ

NODE=S040R9

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
4.6±0.8 OUR FIT					
4.1±0.9±0.5		[1] AALTONEN	09C	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<50	90	[2] BUSKULIC	96V	ALEP	$e^+ e^- \rightarrow Z$

[1] AALTONEN 09C reports $[\Gamma(\Lambda_b^0 \rightarrow p\pi^-)/\Gamma_{total}]$ / $[B(B^0 \rightarrow K^+\pi^-)]$ × $[B(\overline{b} \rightarrow b\text{-baryon})]$ / $[B(\overline{b} \rightarrow B^0)]$ = 0.042 ± 0.007 ± 0.006 which we multiply or divide by our best values $B(B^0 \rightarrow K^+\pi^-) = (2.00 \pm 0.04) \times 10^{-5}$, $B(\overline{b} \rightarrow b\text{-baryon}) = (8.4 \pm 1.1) \times 10^{-2}$, $B(\overline{b} \rightarrow B^0) = (40.8 \pm 0.7) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040R9;LINKAGE=AL

[2] BUSKULIC 96V assumes PDG 96 production fractions for B^0, B^+, B_s, b baryons.

NODE=S040R9;LINKAGE=BV

$\Gamma(pK^-)/\Gamma_{total}$ — Γ_{65}/Γ

NODE=S040R10

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
5.5±1.0 OUR FIT					
6.4±1.2±0.9		[1] AALTONEN	09C	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<360	90	[2] ADAM	96D	DLPH	$e^+ e^- \rightarrow Z$
< 50	90	[3] BUSKULIC	96V	ALEP	$e^+ e^- \rightarrow Z$

[1] AALTONEN 09C reports $[\Gamma(\Lambda_b^0 \rightarrow pK^-)/\Gamma_{total}]$ / $[B(B^0 \rightarrow K^+\pi^-)]$ × $[B(\overline{b} \rightarrow b\text{-baryon})]$ / $[B(\overline{b} \rightarrow B^0)]$ = 0.066 ± 0.009 ± 0.008 which we multiply or divide by our best values $B(B^0 \rightarrow K^+\pi^-) = (2.00 \pm 0.04) \times 10^{-5}$, $B(\overline{b} \rightarrow b\text{-baryon}) = (8.4 \pm 1.1) \times 10^{-2}$, $B(\overline{b} \rightarrow B^0) = (40.8 \pm 0.7) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040R10;LINKAGE=AL

[2] ADAM 96D assumes $f_{B^0} = f_{B^-} = 0.39$ and $f_{B_s} = 0.12$.

NODE=S040R10;LINKAGE=DQ

[3] BUSKULIC 96V assumes PDG 96 production fractions for B^0, B^+, B_s, b baryons.

NODE=S040R10;LINKAGE=BV

$\Gamma(p\pi^-)/\Gamma(pK^-)$ — Γ_{64}/Γ_{65}

NODE=S040R20

VALUE	DOCUMENT ID		TECN	COMMENT
0.84±0.09 OUR FIT				
0.86±0.08±0.05	AAIJ	12AR	LHCB	pp at 7 TeV

$\Gamma(pD_s^-)/\Gamma_{total}$ — Γ_{66}/Γ

NODE=S040R30

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4.8 \times 10^{-4}$	90	AAIJ	14Q	LHCB	pp at 7 TeV

$\Gamma(p D_s^-)/\Gamma(\Lambda_c^+ \pi^-)$ — Γ_{66}/Γ_{33}

NODE=S040R77
NODE=S040R77

VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
2.56±0.10±0.15	[1] AAIJ 23K	LHCB	pp at 13 TeV

[1] AAIJ 23K reports this measurement as $(2.56 \pm 0.10 \pm 0.05 \pm 0.14) \times 10^{-3}$ where the last uncertainty is due to the branching fractions $B(D_s^- \to K^- K^+ \pi^-)$ and $B(\Lambda_c^+ \to p K^- \pi^+)$ uncertainties.

NODE=S040R77;LINKAGE=A

$\Gamma(p \mu^- \overline{\nu}_\mu)/\Gamma_{total}$ — Γ_{67}/Γ

NODE=S040R34
NODE=S040R34

VALUE (units 10^{-4})	DOCUMENT ID	TECN	COMMENT
4.1±1.0	[1] AAIJ 15BG	LHCB	pp at 8 TeV

[1] The ratio of $B(\Lambda_b^0 \to p \mu^- \overline{\nu}_\mu)$ to $B(\Lambda_b^0 \to \Lambda_c^+ \mu^- \overline{\nu}_\mu)$ is measured within a restricted q^2 region. Combined with theoretical calculations of the form factors and the previously measured value of $|V_{cb}|$, the first $|V_{ub}| = (3.27 \pm 0.15 \pm 0.16 \pm 0.06) \times 10^{-3}$ measurement from the Λ_b decay is obtained, consistent with the exclusively measured world averages.

NODE=S040R34;LINKAGE=A

$\Gamma(p \mu^- \overline{\nu}_\mu)/\Gamma(\Lambda_c^+ \ell^- \overline{\nu}_\ell)$ — Γ_{67}/Γ_{56}

NODE=S040R35
NODE=S040R35

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1.0±0.04±0.08	[1] AAIJ 15BG	LHCB	pp at 8 TeV

[1] This measurement is a ratio of $\Gamma(\Lambda_b^0 \to p \mu^- \overline{\nu}_\mu)[q^2 > 15 \text{ GeV}/c^2]$ to $\Gamma(\Lambda_b^0 \to \Lambda_c^+ \mu^- \overline{\nu}_\mu)[q^2 > 7 \text{ GeV}/c^2]$ within a restricted q^2 region. Combined with theoretical calculations of the form factors and the previously measured value of $|V_{cb}|$, the first $|V_{ub}| = (3.27 \pm 0.15 \pm 0.16 \pm 0.06) \times 10^{-3}$ measurement from the Λ_b decay is obtained, consistent with the exclusively measured world averages.

NODE=S040R35;LINKAGE=A

$\Gamma(\Lambda \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{68}/Γ

NODE=S040R19
NODE=S040R19

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
10.8±2.8 OUR AVERAGE			
9.6±1.6±2.5	[1] AAIJ 13AJ	LHCB	pp at 7 TeV
17.3±4.2±5.5	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV

[1] Uses $B(\Lambda_b^0 \to J/\psi \Lambda) = (6.2 \pm 1.4) \times 10^{-4}$. This measurement comes from the sum of the differential rates in q^2 regions excluding those corresponding to J/ψ and $\psi(2S)$ ([8.68,10.09] and [12.86, 14.18] GeV^2/c^4).

NODE=S040R19;LINKAGE=AA

$\Gamma(p \pi^- \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{69}/Γ

NODE=S040R47
NODE=S040R47

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
$6.9 \pm 1.9^{+1.7}_{-1.5}$	[1] AAIJ 17P	LHCB	pp at 7, 8 TeV

[1] Excludes J/ψ and $\psi(2S)$ decays to $\mu^+ \mu^-$.

NODE=S040R47;LINKAGE=A

$\Gamma(p \pi^- \mu^+ \mu^-)/\Gamma(p \pi^- J/\psi,\ J/\psi \to \mu^+ \mu^-)$ — Γ_{69}/Γ_{15}

NODE=S040R46
NODE=S040R46

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
4.4±1.2±0.7	[1] AAIJ 17P	LHCB	pp at 7, 8 TeV

[1] The $p \pi^- \mu^+ \mu^-$ mode excludes J/ψ and $\psi(2S)$ decays to $\mu^+ \mu^-$.

NODE=S040R46;LINKAGE=A

$\Gamma(p K^- e^+ e^-)/\Gamma_{total}$ — Γ_{70}/Γ

NODE=S040R62
NODE=S040R62

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.310 \pm 0.040^{+0.054}_{-0.047}$	[1,2] AAIJ 20M	LHCB	pp at 7, 8, 13 TeV

[1] Measured over $0.1 < q^2 < 6.0 \text{ GeV}/c^2$, and $m_{pK} < 2.6 \text{ GeV}/c^2$.

NODE=S040R62;LINKAGE=A

[2] The first uncertainty is the statistical uncertainty and the second is the combination of all systematic uncertainties including those related to the normalization of $\Lambda_b^0 \to J/\psi p K^-$.

NODE=S040R62;LINKAGE=B

$\Gamma(p K^- \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{71}/Γ

NODE=S040R61
NODE=S040R61

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$0.265 \pm 0.014^{+0.049}_{-0.039}$	[1,2] AAIJ 20M	LHCB	pp at 7, 8, 13 TeV

[1] Measured over $0.1 < q^2 < 6.0 \text{ GeV}/c^2$, and $m_{pK} < 2.6 \text{ GeV}/c^2$.

NODE=S040R61;LINKAGE=A

[2] The first uncertainty is the statistical uncertainty and the second is the combination of all systematic uncertainties including those related to the normalization of $\Lambda_b^0 \to J/\psi p K^-$.

NODE=S040R61;LINKAGE=B

$\Gamma(pK^-\mu^+\mu^-)/\Gamma(pK^-e^+e^-)$ — Γ_{71}/Γ_{70}

NODE=S040R60
NODE=S040R60

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.86^{+0.14}_{-0.11}\pm0.05}$	[1] AAIJ	20M	LHCB	pp at 7, 8, 13 TeV

[1] Measured over $0.1 < q^2 < 6.0$ GeV/c^2, and $m_{pK} < 2.6$ GeV/c^2.

NODE=S040R60;LINKAGE=A

$\Gamma(pK^-e^+e^-)/\Gamma(pJ/\psi K^-)$ — Γ_{70}/Γ_{16}

NODE=S040R64
NODE=S040R64

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
$\mathbf{9.8^{+1.4}_{-1.3}\pm0.8}$	[1] AAIJ	20M	LHCB	pp at 7, 8, 13 TeV

[1] Measured over $0.1 < q^2 < 6.0$ GeV/c^2, and $m_{pK} < 2.6$ GeV/c^2.

NODE=S040R64;LINKAGE=A

$\Gamma(pK^-\mu^+\mu^-)/\Gamma(pJ/\psi K^-)$ — Γ_{71}/Γ_{16}

NODE=S040R63
NODE=S040R63

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
8.4±0.4±0.4	[1] AAIJ	20M	LHCB	pp at 7, 8, 13 TeV

[1] Measured over $0.1 < q^2 < 6.0$ GeV/c^2, and $m_{pK} < 2.6$ GeV/c^2.

NODE=S040R63;LINKAGE=A

$\Gamma(\Lambda\gamma)/\Gamma_{total}$ — Γ_{73}/Γ

NODE=S040R13
NODE=S040R13

VALUE (units 10^{-6})	CL%	DOCUMENT ID		TECN	COMMENT
7.1±1.5±0.9		[1] AAIJ	19Z	LHCB	pp at 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1300	90	ACOSTA	02G	CDF	$p\overline{p}$ at 1.8 TeV

[1] AAIJ 19Z normalized to $B^0 \to K^{*0}\gamma$ and used an integrated luminosity of 1.7 fb^{-1}.

NODE=S040R13;LINKAGE=A

$\Gamma(\Lambda(1405)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{75}/Γ_{74}

NODE=S040R87
NODE=S040R87

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{3.5^{+0.3+1.9}_{-0.4-0.3}}$	[1] AAIJ	24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R87;LINKAGE=A

$\Gamma(\Lambda(1520)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{76}/Γ_{74}

NODE=S040R93
NODE=S040R93

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{10.4^{+0.4+2.2}_{-0.2-1.2}}$	[1] AAIJ	24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R93;LINKAGE=A

$\Gamma(\Lambda(1600)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{77}/Γ_{74}

NODE=S040R94
NODE=S040R94

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{15.6^{+0.6+4.3}_{-0.9-4.6}}$	[1] AAIJ	24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R94;LINKAGE=A

$\Gamma(\Lambda(1670)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{78}/Γ_{74}

NODE=S040R95
NODE=S040R95

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.3\pm0.2^{+1.3}_{-0.2}}$	[1] AAIJ	24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R95;LINKAGE=A

$\Gamma(\Lambda(1690)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{79}/Γ_{74}

NODE=S040R96
NODE=S040R96

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{7.7^{+0.4+6.2}_{-0.8-0.2}}$	[1] AAIJ	24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R96;LINKAGE=A

$\Gamma(\Lambda(1800)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{80}/Γ_{74}

NODE=S040R97
NODE=S040R97

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
$\mathbf{18.3^{+1.3+3.2}_{-1.6-6.2}}$	[1] AAIJ	24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R97;LINKAGE=A

$\Gamma(\Lambda(1810)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{81}/Γ_{74}

NODE=S040R98

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$0.1^{+0.9+4.8}_{-0.4-0.7}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R98;LINKAGE=A

$\Gamma(\Lambda(1820)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{82}/Γ_{74}

NODE=S040R99

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$8.3^{+0.4+1.0}_{-0.7-5.7}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040R99;LINKAGE=A

$\Gamma(\Lambda(1830)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{83}/Γ_{74}

NODE=S040P00

VALUE	DOCUMENT ID	TECN	COMMENT
$(0.3\pm0.4^{+1.6}_{-0.9})\times10^{-2}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040P00;LINKAGE=A

$\Gamma(\Lambda(1890)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{84}/Γ_{74}

NODE=S040P01

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$11.2^{+0.7+4.6}_{-0.6-4.9}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040P01;LINKAGE=A

$\Gamma(\Lambda(2100)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{85}/Γ_{74}

NODE=S040P02

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$7.3\pm0.5^{+1.4}_{-2.9}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040P02;LINKAGE=A

$\Gamma(\Lambda(2110)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{86}/Γ_{74}

NODE=S040P03

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$6.5^{+0.6+6.3}_{-0.7-0.2}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040P03;LINKAGE=A

$\Gamma(\Lambda(2530)^0\gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{87}/Γ_{74}

NODE=S040P04

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$1.0^{+0.2+0.8}_{-0.1-0.1}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040P04;LINKAGE=A

$\Gamma((\overline{p}K^-)\ \text{nonresonant}\ \gamma)/\Gamma(\overline{p}K^-\gamma)$ — Γ_{88}/Γ_{74}

NODE=S040P05

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
$2.8^{+0.5+2.4}_{-0.4-1.3}$	[1] AAIJ 24P	LHCB	pp at 7, 8, 13 TeV

[1] AAIJ 24P employs a Dalitz plot analysis of $\Lambda_b^0 \to \overline{p}K^-\gamma$ decays.

NODE=S040P05;LINKAGE=A

$\Gamma(\Lambda\eta)/\Gamma_{total}$ — Γ_{89}/Γ

NODE=S040R32

VALUE (units 10^{-6})	DOCUMENT ID	TECN	COMMENT
$9^{+7}_{-5}\pm1$	[1] AAIJ 15AH	LHCB	pp at 7, 8 TeV

[1] AAIJ 15AH reports $[\Gamma(\Lambda_b^0 \to \Lambda\eta)/\Gamma_{total}]$ / $[B(B^0 \to \eta' K^0)] = 0.142^{+0.11}_{-0.08}$ which we multiply by our best value $B(B^0 \to \eta' K^0) = (6.6 \pm 0.4) \times 10^{-5}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. The single uncertainty quoted with the original measurement combines in quadrature statistical and systematic uncertainties.

NODE=S040R32;LINKAGE=A

$\Gamma(\Lambda\eta'(958))/\Gamma_{total}$ — Γ_{90}/Γ

NODE=S040R33

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$<3.1\times10^{-6}$	90	[1] AAIJ 15AH	LHCB	pp at 7, 8 TeV

[1] AAIJ 15AH reports $[\Gamma(\Lambda_b^0 \to \Lambda\eta'(958))/\Gamma_{total}]$ / $[B(B^0 \to \eta' K^0)] < 0.047$ which we multiply by our best value $B(B^0 \to \eta' K^0) = 6.6 \times 10^{-5}$.

NODE=S040R33;LINKAGE=A

$\Gamma(\Lambda\pi^+\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ — Γ_{91}/Γ_{33}

NODE=S040R41

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
9.5±3.8±0.4	[1] AAIJ	16W	LHCB	pp at 7, 8 TeV

[1] AAIJ 16W reports $[\Gamma(\Lambda_b^0 \to \Lambda\pi^+\pi^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)] / [B(\Lambda_c^+ \to \Lambda\pi^+)] = (7.3 \pm 1.9 \pm 2.2) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_c^+ \to \Lambda\pi^+) = (1.31 \pm 0.05) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R41;LINKAGE=A

$\Gamma(\Lambda K^+\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ — Γ_{92}/Γ_{33}

NODE=S040R42

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
11.6±2.3±0.4	[1] AAIJ	16W	LHCB	pp at 7, 8 TeV

[1] AAIJ 16W reports $[\Gamma(\Lambda_b^0 \to \Lambda K^+\pi^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)] / [B(\Lambda_c^+ \to \Lambda\pi^+)] = (8.9 \pm 1.2 \pm 1.3) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_c^+ \to \Lambda\pi^+) = (1.31 \pm 0.05) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R42;LINKAGE=A

$\Gamma(\Lambda K^+K^-)/\Gamma(\Lambda_c^+\pi^-)$ — Γ_{93}/Γ_{33}

NODE=S040R43

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
3.30±0.35±0.12	[1] AAIJ	16W	LHCB	pp at 7, 8 TeV

[1] AAIJ 16W reports $[\Gamma(\Lambda_b^0 \to \Lambda K^+K^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)] / [B(\Lambda_c^+ \to \Lambda\pi^+)] = (25.3 \pm 1.9 \pm 1.9) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_c^+ \to \Lambda\pi^+) = (1.31 \pm 0.05) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R43;LINKAGE=A

$\Gamma(\Lambda D^+D^-)/\Gamma_{total}$ — Γ_{94}/Γ

NODE=S040R86

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
1.24±0.15±0.32	[1] AAIJ	24R	LHCB	pp at 13 TeV

[1] AAIJ 24R reports $(1.24 \pm 0.15 \pm 0.10 \pm 0.28 \pm 0.11) \times 10^{-4}$ from a measurement of $[\Gamma(\Lambda_b^0 \to \Lambda D^+D^-)/\Gamma_{total}] / [B(B^0 \to D^-D^+K^0)]$ assuming $B(B^0 \to D^-D^+K^0) = (7.5 \pm 1.7) \times 10^{-4}$. The first error is statistical, the second experimental systematic, the third due to the B^0 branching fraction, and the fourth due to the cross-section ratio of Λ_b^0 to B^0 of 0.541 ± 0.048.

NODE=S040R86;LINKAGE=B

$\Gamma(\Lambda\phi)/\Gamma_{total}$ — Γ_{95}/Γ

NODE=S040R00

VALUE (units 10^{-6})	DOCUMENT ID		TECN	COMMENT
$9.8\pm2.1^{+1.6}_{-1.5}$	[1] AAIJ	16J	LHCB	pp at 7, 8 TeV

[1] AAIJ 16J reports $[\Gamma(\Lambda_b^0 \to \Lambda\phi)/\Gamma_{total}] / [B(B^0 \to K^0\phi)] \times [B(\overline{b} \to b\text{-baryon})] / [B(\overline{b} \to B^0)] = 0.275 \pm 0.055 \pm 0.020$ which we multiply or divide by our best values $B(B^0 \to K^0\phi) = (7.3 \pm 0.7) \times 10^{-6}$, $B(\overline{b} \to b\text{-baryon}) = (8.4 \pm 1.1) \times 10^{-2}$, $B(\overline{b} \to B^0) = (40.8 \pm 0.7) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best values.

NODE=S040R00;LINKAGE=A

$\Gamma(p\pi^-\pi^+\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ — Γ_{96}/Γ_{33}

NODE=S040R51

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
4.35±0.24±0.17	[1] AAIJ	18Q	LHCB	pp at 7, 8 TeV

[1] AAIJ 18Q reports $[\Gamma(\Lambda_b^0 \to p\pi^-\pi^+\pi^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)] / [B(\Lambda_c^+ \to pK^-\pi^+)] = (6.85 \pm 0.19 \pm 0.08 \pm 0.32) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.25) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R51;LINKAGE=A

$\Gamma(pK^-K^+\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ — Γ_{97}/Γ_{33}

NODE=S040R52

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
0.84±0.10±0.03	[1] AAIJ	18Q	LHCB	pp at 7, 8 TeV

[1] AAIJ 18Q reports $[\Gamma(\Lambda_b^0 \to pK^-K^+\pi^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)] / [B(\Lambda_c^+ \to pK^-\pi^+)] = (1.32 \pm 0.09 \pm 0.09 \pm 0.10) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.25) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R52;LINKAGE=A

$\Gamma(pK^-\pi^+\pi^-)/\Gamma(\Lambda_c^+\pi^-)$ Γ_{98}/Γ_{33}

NODE=S040R53
NODE=S040R53

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
10.4±0.5±0.4	[1] AAIJ	18Q	LHCB	pp at 7, 8 TeV

[1] AAIJ 18Q reports $[\Gamma(\Lambda_b^0 \to pK^-\pi^+\pi^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)]$ / $[B(\Lambda_c^+ \to pK^-\pi^+)]$ = $(16.4 \pm 0.3 \pm 0.2 \pm 0.7) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.25) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R53;LINKAGE=A

$\Gamma(pK^-K^+K^-)/\Gamma(\Lambda_c^+\pi^-)$ Γ_{99}/Γ_{33}

NODE=S040R54
NODE=S040R54

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
2.61±0.15±0.10	[1] AAIJ	18Q	LHCB	pp at 7, 8 TeV

[1] AAIJ 18Q reports $[\Gamma(\Lambda_b^0 \to pK^-K^+K^-)/\Gamma(\Lambda_b^0 \to \Lambda_c^+\pi^-)]$ / $[B(\Lambda_c^+ \to pK^-\pi^+)]$ = $(4.11 \pm 0.12 \pm 0.06 \pm 0.19) \times 10^{-2}$ which we multiply by our best value $B(\Lambda_c^+ \to pK^-\pi^+) = (6.35 \pm 0.25) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=S040R54;LINKAGE=A

PARTIAL BRANCHING FRACTIONS

NODE=S040240

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($q^2 < 2.0$ GeV^2/c^4)

NODE=S040PB1
NODE=S040PB1

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
0.71±0.27 OUR AVERAGE				
$0.72^{+0.24}_{-0.22}\pm0.14$	[1] AAIJ	15AE	LHCB	pp at 7, 8 TeV
$0.15\pm2.01\pm0.05$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.56\pm0.76\pm0.80$	[2] AAIJ	13AJ	LHCB	Repl. by AAIJ 15AE

[1] AAIJ 15AE measurement covers $0.1 < q^2 < 2.0$ GeV^2/c^4.

NODE=S040PB1;LINKAGE=A

[2] Uses $B(\Lambda_b^0 \to J/\psi\Lambda) = (6.2 \pm 1.4) \times 10^{-4}$.

NODE=S040PB1;LINKAGE=AA

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($2.0 < q^2 < 4.3$ GeV^2/c^4)

NODE=S040PB2
NODE=S040PB2

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$0.28^{+0.28}_{-0.21}$ OUR AVERAGE				
$0.253^{+0.276}_{-0.207}\pm0.046$	[1] AAIJ	15AE	LHCB	pp at 7, 8 TeV
$1.8\pm1.7\pm0.6$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.71\pm0.60\pm0.23$	[2] AAIJ	13AJ	LHCB	Repl. by AAIJ 15AE

[1] AAIJ 15AE measurement covers $2.0 < q^2 < 4.0$ GeV^2/c^4.

NODE=S040PB2;LINKAGE=A

[2] Uses $B(\Lambda_b^0 \to J/\psi\Lambda) = (6.2 \pm 1.4) \times 10^{-4}$.

NODE=S040PB2;LINKAGE=AA

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($q^2 < 4.3$ GeV^2/c^4)

NODE=S040PB8
NODE=S040PB8

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
2.7±2.5±0.9	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($4.0 < q^2 < 6.0$ GeV^2/c^4)

NODE=S040PB9
NODE=S040PB9

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$0.04^{+0.18}_{-0.00}\pm0.02$	AAIJ	15AE	LHCB	pp at 7, 8 TeV

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($1.0 < q^2 < 6.0$ GeV^2/c^4)

NODE=S040PB7
NODE=S040PB7

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$0.47^{+0.31}_{-0.27}$ OUR AVERAGE				
$0.45^{+0.30}_{-0.25}\pm0.10$	[1] AAIJ	15AE	LHCB	pp at 7 and 8 TeV
$1.3\pm2.1\pm0.4$	AALTONEN	11AI	CDF	$p\overline{p}$ at 1.96 TeV

[1] AAIJ 15AE measurement covers $1.1 < q^2 < 6.0$ GeV^2/c^4.

NODE=S040PB7;LINKAGE=A

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($6.0 < q^2 < 8.0$ GeV^2/c^4)

NODE=S040PB0
NODE=S040PB0

VALUE (units 10^{-7})	DOCUMENT ID		TECN	COMMENT
$0.50^{+0.24}_{-0.22}\pm0.10$	AAIJ	15AE	LHCB	pp at 7, 8 TeV

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($4.3 < q^2 < 8.68$ GeV^2/c^4)

NODE=S040PB3
NODE=S040PB3

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
0.5 ±0.7 OUR AVERAGE			
0.66±0.74±0.18	[1] AAIJ 13AJ	LHCB	pp at 7 TeV
−0.2 ±1.6 ±0.1	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV

[1] Uses $B(\Lambda_b^0 \to J/\psi\Lambda) = (6.2 \pm 1.4) \times 10^{-4}$.

NODE=S040PB3;LINKAGE=AA

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($10.09 < q^2 < 12.86$ GeV^2/c^4)

NODE=S040PB4
NODE=S040PB4

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
2.2 ±0.6 OUR AVERAGE			
$2.08^{+0.42}_{-0.39}\pm0.42$	[1] AAIJ 15AE	LHCB	pp at 7, 8 TeV
3.0 ±1.5 ±1.0	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1.55±0.58±0.55	[2] AAIJ 13AJ	LHCB	Repl. by AAIJ 15AE

[1] AAIJ 15AE measurement covers $11.0 < q^2 < 12.5$ GeV^2/c^4.

[2] Uses $B(\Lambda_b^0 \to J/\psi\Lambda) = (6.2 \pm 1.4) \times 10^{-4}$.

NODE=S040PB4;LINKAGE=A

NODE=S040PB4;LINKAGE=AA

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($14.18 < q^2 < 16.0$ GeV^2/c^4)

NODE=S040PB5
NODE=S040PB5

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
1.7 ±0.5 OUR AVERAGE Error includes scale factor of 1.1.			
$2.04^{+0.35}_{-0.33}\pm0.42$	[1] AAIJ 15AE	LHCB	pp at 7, 8 TeV
1.0 ±0.7 ±0.3	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1.44±0.44±0.42	[2] AAIJ 13AJ	LHCB	Repl. by AAIJ 15AE

[1] AAIJ 15AE measurement covers $15.0 < q^2 < 16.0$ GeV^2/c^4.

[2] Uses $B(\Lambda_b^0 \to J/\psi\Lambda) = (6.2 \pm 1.4) \times 10^{-4}$.

NODE=S040PB5;LINKAGE=A

NODE=S040PB5;LINKAGE=AA

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($16.0 < q^2$ GeV^2/c^4)

NODE=S040PB6
NODE=S040PB6

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
7.0 ±1.9 ±2.2	AALTONEN 11AI	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
4.73±0.77±1.25	[1,2] AAIJ 13AJ	LHCB	Repl. by AAIJ 15AE

[1] Uses $B(\Lambda_b^0 \to J/\psi\Lambda) = (6.2 \pm 1.4) \times 10^{-4}$.

[2] Requires $16.00 < q^2 < 20.30$ GeV^2/c^4.

NODE=S040PB6;LINKAGE=AA

NODE=S040PB6;LINKAGE=AI

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($18.0 < q^2 < 20.0$ GeV^2/c^4)

NODE=S040PBA
NODE=S040PBA

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
2.44±0.28±0.50	AAIJ 15AE	LHCB	pp at 7, 8 TeV

$B(\Lambda_b \to \Lambda\mu^+\mu^-)$ ($15.0 < q^2 < 20.0$ GeV^2/c^4)

NODE=S040PBB
NODE=S040PBB

VALUE (units 10^{-7})	DOCUMENT ID	TECN	COMMENT
6.00±0.45±1.25	AAIJ 15AE	LHCB	pp at 7, 8 TeV

$B(\Lambda_b \to \Lambda(1520)^0\mu^+\mu^-)$ ($1.1 < q^2 < 6.0$ GeV^2/c^4)

NODE=S040A40
NODE=S040A40

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
9.56±1.13±0.78±1.81	[1] AAIJ 23BB	LHCB	pp at 7, 8, 13 TeV

[1] Uses $B(\Lambda_b \to J/\psi pK^-) = (3.2 \pm 0.6) \times 10^{-4}$. The last uncertainty is due to uncertainties of $B(\Lambda_b^0 \to pK^- J/\psi)$ and $B(J/\psi \to \mu^+\mu^-)$ values.

NODE=S040A40;LINKAGE=A

$B(\Lambda_b \to \Lambda(1520)^0\mu^+\mu^-)$ ($15.0 < q^2 < 17.0$ GeV^2/c^4)

NODE=S040A41
NODE=S040A41

VALUE (units 10^{-8})	DOCUMENT ID	TECN	COMMENT
1.14±0.48±0.26±0.22	[1] AAIJ 23BB	LHCB	pp at 7, 8, 13 TeV

[1] Uses $B(\Lambda_b \to J/\psi pK^-) = (3.2 \pm 0.6) \times 10^{-4}$. The last uncertainty is due to uncertainties of $B(\Lambda_b^0 \to pK^- J/\psi)$ and $B(J/\psi \to \mu^+\mu^-)$ values.

NODE=S040A41;LINKAGE=A

CP VIOLATION

NODE=S040230

A_{CP} is defined as

NODE=S040230

$$A_{CP} = \frac{B(\Lambda_b^0 \to f) - B(\overline{\Lambda}_b^0 \to \overline{f})}{B(\Lambda_b^0 \to f) + B(\overline{\Lambda}_b^0 \to \overline{f})},$$

the *CP*-violation asymmetry of exclusive Λ_b^0 and $\overline{\Lambda}_b^0$ decay.

$A_{CP}(\Lambda_b \to p\pi^-)$

NODE=S040CP1
NODE=S040CP1

VALUE	DOCUMENT ID		TECN	COMMENT
−0.025±0.029 OUR AVERAGE	Error includes scale factor of 1.2.			
−0.035±0.017±0.020	AAIJ	18AX	LHCB	pp at 7 and 8 TeV
0.06 ±0.07 ±0.03	AALTONEN	14P	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.03 ±0.17 ±0.05	AALTONEN	11N	CDF	Repl. by AALTONEN 14P

$A_{CP}(\Lambda_b \to pK^-)$

NODE=S040CP2
NODE=S040CP2

VALUE	DOCUMENT ID		TECN	COMMENT
−0.025±0.022 OUR AVERAGE				
−0.020±0.013±0.019	AAIJ	18AX	LHCB	pp at 7 and 8 TeV
−0.10 ±0.08 ±0.04	AALTONEN	14P	CDF	$p\overline{p}$ at 1.96 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.37 ±0.17 ±0.03	AALTONEN	11N	CDF	Repl. by AALTONEN 14P

$A_{CP}(\Lambda_b \to DpK^-)$

NODE=S040A38
NODE=S040A38

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.12 \pm 0.09 ^{+0.02}_{-0.03}}$	[1] AAIJ	21AD	LHCB	pp at 7, 8, 13 TeV

[1] A_{CP} is measured from $(B(\Lambda_b^0 \to [K^+\pi^-]_D pK^-) - B(\overline{\Lambda}_b^0 \to [K^-\pi^+]_D \overline{p}K^+))/(B(\Lambda_b^0 \to [K^+\pi^-]_D pK^-) + B(\overline{\Lambda}_b^0 \to [K^-\pi^+]_D \overline{p}K^+))$ in the full phase space.

NODE=S040A38;LINKAGE=A

$A_{CP}(\Lambda_b^0 \to \Lambda_c^+\pi^-)$

NODE=S040A42
NODE=S040A42

VALUE	DOCUMENT ID		TECN	COMMENT
0.007±0.008±0.005	[1] AAIJ	24AH	LHCB	pp at 7, 8, 13 TeV

[1] Analyzes the angular distribution of $\Lambda_b^0 \to \Lambda_c^+\pi^-$.

NODE=S040A42;LINKAGE=A

$A_{CP}(\Lambda_b^0 \to \Lambda_c^+ K^-)$

NODE=S040A43
NODE=S040A43

VALUE	DOCUMENT ID		TECN	COMMENT
−0.032±0.029±0.006	[1] AAIJ	24AH	LHCB	pp at 7, 8, 13 TeV

[1] Analyzes the angular distribution of $\Lambda_b^0 \to \Lambda_c^+ K^-$.

NODE=S040A43;LINKAGE=A

$\Delta A_{CP}(pK^-/\pi^-)$

NODE=S040A19

$\Delta A_{CP} \equiv A_{CP}(pK^-) - A_{CP}(p\pi^-)$

NODE=S040A19
NODE=S040A19

VALUE	DOCUMENT ID		TECN	COMMENT
0.014±0.022±0.010	AAIJ	18AX	LHCB	pp at 7 and 8 TeV

$A_{CP}(\Lambda_b \to p\overline{K}^0\pi^-)$

NODE=S040CP3
NODE=S040CP3

VALUE	DOCUMENT ID		TECN	COMMENT
0.22±0.13±0.03	AAIJ	14Q	LHCB	pp at 7 TeV

$\Delta A_{CP}(J/\psi p\pi^-/K^-)$

NODE=S040DCP

$\Delta A_{CP} \equiv A_{CP}(J/\psi p\pi^-) - A_{CP}(J/\psi pK^-)$

NODE=S040DCP
NODE=S040DCP

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
5.7±2.4±1.2	AAIJ	14K	LHCB	pp at 7, 8 TeV

$A_{CP}(\Lambda_b \to \Lambda K^+\pi^-)$

NODE=S040A00
NODE=S040A00

VALUE	DOCUMENT ID		TECN	COMMENT
−0.53±0.23±0.11	[1] AAIJ	16W	LHCB	pp at 7, 8 TeV

[1] Measured relative to $\Lambda_b^0 \to \Lambda_c^+\pi^-$ decay.

NODE=S040A00;LINKAGE=A

$A_{CP}(\Lambda_b \to \Lambda K^+K^-)$

NODE=S040A05
NODE=S040A05

VALUE	DOCUMENT ID		TECN	COMMENT
−0.28±0.10±0.07	[1] AAIJ	16W	LHCB	pp at 7, 8 TeV

[1] Measured relative to $\Lambda_b^0 \to \Lambda_c^+\pi^-$ decay.

NODE=S040A05;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to p K^- \mu^+ \mu^-)$ NODE=S040A10

$\Delta A_{CP} \equiv A_{CP}(p K^- \mu^+ \mu^-) - A_{CP}(p K^- J/\psi)$ NODE=S040A10

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
−3.5±5.0±0.2	AAIJ 17T	LHCB	pp at 7, 8 TeV

NODE=S040A10

$\Delta A_{CP}(\Lambda_b^0 \to p \pi^- \pi^+ \pi^-)$ NODE=S040A22

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to p \pi^- \pi^+ \pi^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p \pi^- \pi^+)\pi^-)$ NODE=S040A22

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
1.1±2.5±0.6	[1] AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A22

[1] Full phase space. NODE=S040A22;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to (p \pi^- \pi^+ \pi^-)_{LBM})$ NODE=S040A23

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to (p \pi^- \pi^+ \pi^-)_{LBM}) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p \pi^- \pi^+)\pi^-)$. Two-body low invariant-mass region (LBM): m($p\pi^-$) < 2000MeV and m($\pi^+\pi^-$) < 1640 MeV. NODE=S040A23

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
3.7±4.1±0.5	[1] AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A23

[1] Measurement done with $m(p\pi^-) < 2000$ MeV/c^2 and $m(\pi^+\pi^-) < 1640$ MeV/c^2. NODE=S040A23;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to p a_1(1260)^-)$ NODE=S040A29

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to p a_1(1260)^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p \pi^- \pi^+)\pi^-)$. 419 < m($\pi^+\pi^-\pi^+$) < 1500 MeV. NODE=S040A29

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
−1.5±4.2±0.6	AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A29

$\Delta A_{CP}(\Lambda_b^0 \to N(1520)^0 \rho(770)^0)$ NODE=S040A30

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to N(1520)^0 \rho(770)^0) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p \pi^- \pi^+)\pi^-)$. 1078 < m($p\pi^-$) < 1800 MeV and m($\pi^+\pi^-$) < 1100 MeV. NODE=S040A30

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
2.0±4.9±0.4	AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A30

$\Delta A_{CP}(\Lambda_b^0 \to \Delta(1232)^{++} \pi^- \pi^-)$ NODE=S040A31

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to \Delta(1232)^{++} \pi^- \pi^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p \pi^- \pi^+)\pi^-)$. 1078 < m($p\pi^+$) < 1432 MeV. NODE=S040A31

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
0.1±3.2±0.6	AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A31

$\Delta A_{CP}(\Lambda_b^0 \to p K^- \pi^+ \pi^-)$ NODE=S040A24

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to p K^- \pi^+ \pi^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$ NODE=S040A24

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
3.2±1.1±0.6	[1] AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A24

[1] Full phase space. NODE=S040A24;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to (p K^- \pi^+ \pi^-)_{LBM})$ NODE=S040A25

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to (p K^- \pi^+ \pi^-)_{LBM}) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$. Two-body low invariant-mass region (LBM): m(pK^-) < 2000 MeV and m($\pi^+\pi^-$) < 1640 MeV. NODE=S040A25

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
3.5±1.5±0.5	[1] AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A25

[1] Measurement done with $m(pK^-) < 2000$ MeV/c^2 and $m(\pi^+\pi^-) < 1640$ MeV/c^2. NODE=S040A25;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to N(1520)^0 K^*(892)^0)$ NODE=S040A32

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to N(1520)^0 K^*(892)^0) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$. 1078 < m($p\pi^-$) < 1800 MeV and 750 < m(π^+K^-) < 1100 MeV. NODE=S040A32

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
5.5±2.5±0.5	AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A32

$\Delta A_{CP}(\Lambda_b^0 \to \Lambda(1520) \rho(770)^0)$ NODE=S040A33

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to \Lambda(1520) \rho(770)^0) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$. 1460 < m($pK^-$) < 1580 MeV and m($\pi^+\pi^-$) < 1100 MeV. NODE=S040A33

VALUE (units 10^{-2})	DOCUMENT ID	TECN	COMMENT
0.6±6.0±0.5	AAIJ 19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A33

$\Delta A_{CP}(\Lambda_b^0 \to \Delta(1232)^{++} K^- \pi^-)$

NODE=S040A34

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to \Delta(1232)^{++} K^- \pi^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$. $1078 < m(p\pi^+) < 1432$ MeV.

NODE=S040A34

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
4.4±2.6±0.6	AAIJ	19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A34

$\Delta A_{CP}(\Lambda_b^0 \to p K_1(1410)^-)$

NODE=S040A35

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to p K_1(1410)^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$. $1200 < m(K^- \pi^+ \pi^-) < 1600$ MeV.

NODE=S040A35

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
4.7±3.5±0.8	AAIJ	19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A35

$\Delta A_{CP}(\Lambda_b^0 \to p K^- K^+ \pi^-)$

NODE=S040A26

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to p K^- K^+ \pi^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p \pi^- \pi^+)\pi^-)$

NODE=S040A26

NODE=S040A26

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
−6.9±4.9±0.8	[1] AAIJ	19AH	LHCB	pp at 7 and 8 TeV

[1] Full phase space.

NODE=S040A26;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to p K^- K^+ K^-)$

NODE=S040A27

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to p K^- K^+ K^-) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$

NODE=S040A27

NODE=S040A27

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
0.2±1.8±0.6	[1] AAIJ	19AH	LHCB	pp at 7 and 8 TeV

[1] Full phase space.

NODE=S040A27;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to \Lambda(1520)\phi(1020))$

NODE=S040A36

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to \Lambda(1520)\phi(1020)) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$. $1460 < m(p K^-) < 1600$ MeV and $1005 < m(K^+ K^-) < 1040$ MeV.

NODE=S040A36

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
4.3±5.6±0.4	AAIJ	19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A36

$\Delta A_{CP}(\Lambda_b^0 \to (p K^-)_{highmass}\ \phi(1020))$

NODE=S040A37

$\Delta A_{CP} \equiv A_{CP}\ (\Lambda_b^0 \to (p K^-)_{highmass}\ \phi(1020)) - A_{CP}(\Lambda_b^0 \to (\Lambda_c p K^- \pi^+)\pi^-)$. $m(p K^-) > 1600$ MeV and $1005 < m(K^+ K^-) < 1040$ MeV.

NODE=S040A37

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
−0.7±3.3±0.7	[1] AAIJ	19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A37

[1] Measurement done with $m(p K^-) > 1600$ MeV/c^2.

NODE=S040A37;LINKAGE=A

$\Delta A_{CP}(\Lambda_b^0 \to (p K^- K^+ K^-)_{LBM})$

NODE=S040A28

$\Delta A_{CP} \equiv A_{CP}(\Lambda_b^0 \to (p K^- K^+ K^-)_{LBM}) - A_{CP}(\Lambda_b^0 \to (\Lambda_c^+ \to p K^- \pi^+)\pi^-)$. Two-body low invariant-mass region (LBM): $m(p K^-) < 2000$ MeVand $m(K^+ K^-) < 1675$ MeV.

NODE=S040A28

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
2.7±2.3±0.6	[1] AAIJ	19AH	LHCB	pp at 7 and 8 TeV

NODE=S040A28

[1] Measurement done with $m(p K^-) < 2000$ MeV/c^2 and $m(K^+ K^-) < 1675$ MeV/c^2.

NODE=S040A28;LINKAGE=A

CP AND *T* VIOLATION PARAMETERS

NODE=S040270

Measured values of the triple-product asymmetry parameters, odd under time-reversal, are defined as $A_{c(s)}(\Lambda/\phi) = (N^+_{c(s)} - N^-_{c(s)})$ / (sum) where $N^+_{c(s)}$, $N^-_{c(s)}$ are the number of Λ or ϕ candidates for which the cos(Φ) and sin(Φ) observables are positive and negative, respectively. Angles cos(Φ) and sin(Φ) are defined as in LEITNER 07.

NODE=S040270

$A_c(\Lambda)$

NODE=S040TCL

NODE=S040TCL

VALUE	DOCUMENT ID		TECN	COMMENT
−0.22±0.12±0.06	AAIJ	16J	LHCB	pp at 7, 8 TeV

$A_s(\Lambda)$

NODE=S040TSL

NODE=S040TSL

VALUE	DOCUMENT ID		TECN	COMMENT
0.13±0.12±0.05	AAIJ	16J	LHCB	pp at 7, 8 TeV

$A_c(\phi)$

NODE=S040TCP
NODE=S040TCP

VALUE	DOCUMENT ID		TECN	COMMENT
−0.01±0.12±0.03	AAIJ	16J	LHCB	pp at 7, 8 TeV

$A_s(\phi)$

NODE=S040TSP
NODE=S040TSP

VALUE	DOCUMENT ID		TECN	COMMENT
−0.07±0.12±0.01	AAIJ	16J	LHCB	pp at 7, 8 TeV

$a_{CP}(\Lambda_b^0 \to p\pi^-\pi^+\pi^-)$

NODE=S040A08

Observable calculated as half of the difference between triple products for Λ_b^0 and $\overline{\Lambda}_b^0$, which is sensitive to CP violation.

NODE=S040A08
NODE=S040A08

VALUE (%)	DOCUMENT ID		TECN	COMMENT
−0.7 ±0.7 ±0.2	[1] AAIJ	20AB	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1.15±1.45±0.32	[2] AAIJ	17H	LHCB	Repl. by AAIJ 20AB

[1] Used both triple product asymmetries and the unbinned energy test method. NODE=S040A08;LINKAGE=C
[2] Measured over full phase space of the decay. NODE=S040A08;LINKAGE=A

$a_{CP}(\Lambda_b^0 \to pK^-\pi^+\pi^-)$

NODE=S040A14

Observable calculated as half of the difference between triple products for Λ_b^0 and $\overline{\Lambda}_b^0$, which is sensitive to CP violation.

NODE=S040A14
NODE=S040A14

VALUE (%)	DOCUMENT ID		TECN	COMMENT
−0.81±0.84±0.31	[1] AAIJ	18AG	LHCB	pp at 7, 8 TeV

[1] Measured over full phase space of the decay. NODE=S040A14;LINKAGE=A

$a_{CP}(\Lambda_b^0 \to pK^-K^+\pi^-)$

NODE=S040A09

Observable calculated as half of the difference between triple products for Λ_b^0 and $\overline{\Lambda}_b^0$, which is sensitive to CP violation.

NODE=S040A09
NODE=S040A09

VALUE (%)	DOCUMENT ID		TECN	COMMENT
−0.93±4.54±0.42	[1] AAIJ	17H	LHCB	pp at 7, 8 TeV

[1] Measured over full phase space of the decay. NODE=S040A09;LINKAGE=A

$a_{CP}(\Lambda_b^0 \to pK^-K^+K^-)$

NODE=S040A15

Observable calculated as half of the difference between triple products for Λ_b^0 and $\overline{\Lambda}_b^0$, which is sensitive to CP violation.

NODE=S040A15
NODE=S040A15

VALUE (%)	DOCUMENT ID		TECN	COMMENT
1.12±1.51±0.32	[1] AAIJ	18AG	LHCB	pp at 7, 8 TeV

[1] Measured over full phase space of the decay. NODE=S040A15;LINKAGE=A

$a_{CP}(\Lambda_b^0 \to pK^-\mu^+\mu^-)$

NODE=S040A12
NODE=S040A12

VALUE (%)	DOCUMENT ID		TECN	COMMENT
1.2±5.0±0.7	AAIJ	17T	LHCB	pp at 7, 8 TeV

P VIOLATION PARAMETERS

NODE=S040280

Observables calculated as average of the triple products for Λ_b^0 and $\overline{\Lambda}_b^0$, which is sensitive to parity violation.

NODE=S040280

$a_P(\Lambda_b^0 \to p\pi^-\pi^+\pi^-)$

NODE=S040A06
NODE=S040A06

VALUE (%)	DOCUMENT ID		TECN	COMMENT
−4.0 ±0.7 ±0.2	[1] AAIJ	20AB	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−3.71±1.45±0.32	[2] AAIJ	17H	LHCB	Repl. by AAIJ 20AB

[1] Used both triple product asymmetries and the unbinned energy test method. NODE=S040A06;LINKAGE=C
[2] Measured over full phase space of the decay. NODE=S040A06;LINKAGE=A

$a_P(\Lambda_b^0 \to pK^-\pi^+\pi^-)$

NODE=S040A16
NODE=S040A16

VALUE (%)	DOCUMENT ID		TECN	COMMENT
−0.60±0.84±0.31	[1] AAIJ	18AG	LHCB	pp at 7, 8 TeV

[1] Measured over full phase space of the decay. NODE=S040A16;LINKAGE=A

$a_P(\Lambda_b^0 \to pK^-K^+\pi^-)$

NODE=S040A07
NODE=S040A07

VALUE (%)	DOCUMENT ID		TECN	COMMENT
3.62±4.54±0.42	[1] AAIJ	17H	LHCB	pp at 7, 8 TeV

[1] Measured over full phase space of the decay. NODE=S040A07;LINKAGE=A

$a_P(\Lambda_b^0 \to pK^- K^+ K^-)$ NODE=S040A17

VALUE (%)	DOCUMENT ID		TECN	COMMENT
−1.56±1.51±0.32	[1] AAIJ	18AG	LHCB	pp at 7, 8 TeV

[1] Measured over full phase space of the decay. NODE=S040A17;LINKAGE=A

$a_P(\Lambda_b^0 \to pK^- \mu^+ \mu^-)$ NODE=S040A11

VALUE (%)	DOCUMENT ID		TECN	COMMENT
−4.8±5.0±0.7	AAIJ	17T	LHCB	pp at 7, 8 TeV

Λ_b^0 DECAY PARAMETERS NODE=S040250

See the note on "Baryon Decay Parameters" in the neutron Listings. NODE=S040250

α decay parameter for $\Lambda_b \to J/\psi \Lambda$ NODE=S040A01

VALUE	DOCUMENT ID		TECN	COMMENT
−0.017±0.026 OUR AVERAGE				
$-0.022^{+0.027}_{-0.026}$	[1] AAIJ	20O	LHCB	pp at 7, 8, 13 TeV
−0.14 ±0.14 ±0.10	[2] SIRUNYAN	18R	CMS	pp at 7, 8 TeV
0.30 ±0.16 ±0.06	[3] AAD	14L	ATLS	pp at 7 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.05 ±0.17 ±0.07	[4] AAIJ	13AG	LHCB	Repl. by AAIJ 20O

[1] Extracted using a Bayesian analysis. The most probable value is given as −0.022, with a 68% credibility interval [-0.048, 0.005]. Transverse polarizations of Λ_b^0 of −0.004 (68% credibility interval [-0.064, 0.051]), 0.001 (68% credibility interval [-0.035, 0.045]), and 0.032 (68% credibility interval [-0.011, 0.065]) are also reported at 7 TeV, 8 TeV and 13 TeV, respectively. Note that both statistical and systematic uncertainties are included. NODE=S040A01;LINKAGE=C

[2] An angular analysis of $\Lambda_b \to J/\psi \Lambda$ decay is performed. Note that the sign of α in CMS definition is the opposite to that used by AAIJ 13AG and AAD 14L. Λ_b transverse production polarization of 0.00 ± 0.06 ± 0.06 is also reported, as well as squares of the helicity amplitudes. NODE=S040A01;LINKAGE=B

[3] An angular analysis of $\Lambda_b \to J/\psi \Lambda$ decay is performed and magnitudes of all helicity amplitudes are also reported. NODE=S040A01;LINKAGE=A

[4] An angular analysis of $\Lambda_b \to J/\psi \Lambda$ decay is performed and a Λ_b transverse production polarization of 0.06 ± 0.07 ± 0.02 is also reported. NODE=S040A01;LINKAGE=AA

CP-averaged α decay parameter for $\Lambda_b^0 \to \Lambda_c^+ \pi^-$ NODE=S040A44

VALUE	DOCUMENT ID		TECN	COMMENT
−1.003±0.008±0.005	[1] AAIJ	24AH	LHCB	pp at 7, 8, 13 TeV

[1] Analyzes the angular distribution of $\Lambda_b^0 \to \Lambda_c^+ \pi^-$. NODE=S040A44;LINKAGE=A

CP-averaged α decay parameter for $\Lambda_b^0 \to \Lambda_c^+ K^-$ NODE=S040A45

VALUE	DOCUMENT ID		TECN	COMMENT
−0.964±0.028±0.015	[1] AAIJ	24AH	LHCB	pp at 7, 8, 13 TeV

[1] Analyzes the angular distribution of $\Lambda_b^0 \to \Lambda_c^+ K^-$. NODE=S040A45;LINKAGE=A

α_γ decay parameter for $\Lambda_b \to \Lambda \gamma$ NODE=S040A39

Measures asymmetry between left- and right-handed photons in the decay. NODE=S040A39

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.82^{+0.17}_{-0.26}{}^{+0.04}_{-0.13}}$	[1] AAIJ	22M	LHCB	pp at 13 TeV

[1] AAIJ 22M provides a combined measurement as well as measured $\alpha_\gamma^- = 1.26 \pm 0.42 \pm 0.20$ and $\alpha_\gamma^+ = 0.55 \pm 0.32 \pm 0.16$ for Λ_b^0 and $\overline{\Lambda}_b^0$ separately. NODE=S040A39;LINKAGE=A

$f_L(\mu\mu)$ longitudinal polarization fraction in $\Lambda_b \to \Lambda \mu^+ \mu^-$ NODE=S040A04

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.61^{+0.11}_{-0.14} \pm 0.03}$	[1] AAIJ	15AE	LHCB	pp at 7, 8 TeV

[1] AAIJ 15AE measurement covers $15.0 < q^2 < 20.0$ GeV^2/c^4. NODE=S040A04;LINKAGE=A

FORWARD-BACKWARD ASYMMETRIES

NODE=S040260

The forward-backward assymmetry is defined as $A_{FB}(\Lambda_b^0)$ = [N(F) − N(B)] / [N(F) + N(B)], where the forward (F) direction corresponds to a particle (Λ_b^0 or Λ_b^-) sharing valence quark flavors with a beam particle with the same sign of rapidity.

NODE=S040260

$A_{FB}(\Lambda_b^0 \to J/\psi \Lambda)$

NODE=S040FBL
NODE=S040FBL

VALUE	DOCUMENT ID		TECN	COMMENT
0.04±0.07±0.02	[1] ABAZOV	15I	D0	$p\overline{p}$ at 1.96 TeV

[1] The measured asymmetry integrated over rapidity y in the range of 0.1 < |y| < 2.0.

NODE=S040FBL;LINKAGE=A

$A^{\ell}_{FB}(\mu\mu)$ in $\Lambda_b \to \Lambda \mu^+ \mu^-$

NODE=S040A02
NODE=S040A02

VALUE	DOCUMENT ID		TECN	COMMENT
−0.39±0.04±0.01	[1] AAIJ	18AP	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.05±0.09±0.03	[2] AAIJ	15AE	LHCB	Repl. by AAIJ 18AP.

[1] The measurement covers 15.0 < q^2 < 20.0 GeV^2/c^4.

NODE=S040A02;LINKAGE=C

[2] AAIJ 15AE measurement covers 15.0 < q^2 < 20.0 GeV^2/c^4.

NODE=S040A02;LINKAGE=A

$\Delta(A^{\ell}_{FB}(\mu\mu))$ in $\Lambda_b \to \Lambda \mu^+ \mu^-$

NODE=S040A21

Difference of asymmetries $A^{\ell}_{FB}(\mu\mu)$ in $\Lambda_b \to \Lambda \mu^+ \mu^-$ between Λ_b and $\overline{\Lambda}_b$ decays

NODE=S040A21
NODE=S040A21

VALUE	DOCUMENT ID		TECN	COMMENT
−0.05±0.09±0.03	AAIJ	18AO	LHCB	pp at 7, 8 TeV

$A^{h}_{FB}(p\pi)$ in $\Lambda_b \to \Lambda(p\pi)\mu^+ \mu^-$

NODE=S040A03
NODE=S040A03

VALUE	DOCUMENT ID		TECN	COMMENT
−0.30±0.05±0.02	[1] AAIJ	18AP	LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−0.29±0.07±0.03	[2] AAIJ	15AE	LHCB	Repl. by AAIJ 18AP.

[1] The measurement covers 15.0 < q^2 < 20.0 GeV^2/c^4.

NODE=S040A03;LINKAGE=C

[2] AAIJ 15AE measurement covers 15.0 < q^2 < 20.0 GeV^2/c^4.

NODE=S040A03;LINKAGE=A

$A^{\ell h}_{FB}$ in $\Lambda_b \to \Lambda \mu^+ \mu^-$

NODE=S040A18
NODE=S040A18

VALUE	DOCUMENT ID		TECN	COMMENT
0.25±0.04±0.01	[1] AAIJ	18AP	LHCB	pp at 7, 8, 13 TeV

[1] The measurement covers 15.0 < q^2 < 20.0 GeV^2/c^4.

NODE=S040A18;LINKAGE=A

$\Lambda_b^0 - \overline{\Lambda}_b^0$ Production Asymmetry

NODE=S040255

$$A_P(\Lambda_b^0) = [\sigma(\Lambda_b^0) - \sigma(\overline{\Lambda}_b^0)] \;/\; [\sigma(\Lambda_b^0) + \sigma(\overline{\Lambda}_b^0)]$$

NODE=S040255

$A_P(\Lambda_b^0)$

NODE=S040A13
NODE=S040A13

VALUE (units 10^{-2})	DOCUMENT ID		TECN	COMMENT
1.4 ±0.4 OUR AVERAGE	Error includes scale factor of 1.8.			
1.92±0.35	[1] AAIJ	21AJ	LHCB	pp at 7 TeV
1.09±0.29	[1] AAIJ	21AJ	LHCB	pp at 8 TeV
−0.11±2.53±1.08	[2] AAIJ	17BF	LHCB	pp at 7 TeV
3.44±1.61±0.76	[2] AAIJ	17BF	LHCB	pp at 8 TeV

OCCUR=2
OCCUR=2

[1] Integrated over the kinematic range 2 < p_T < 27 GeV/c and 2.15 < y < 4.10.

NODE=S040A13;LINKAGE=B

[2] Indirect determination in kinematic range 2 < p_T < 30 GeV/c and 2.1 < η < 4.5 from production asymmetries of B^+, B^0 and B^0_s.

NODE=S040A13;LINKAGE=A

Λ_b^0 REFERENCES

NODE=S040

AAIJ	24AH	PRL 133 261804	R. Aaij *et al.*	(LHCb Collab.)	REFID=63074
AAIJ	24P	JHEP 2406 098	R. Aaij *et al.*	(LHCb Collab.)	REFID=62865
AAIJ	24R	JHEP 2407 140	R. Aaij *et al.*	(LHCb Collab.)	REFID=62871
AAIJ	24V	EPJ C84 237	R. Aaij *et al.*	(LHCb Collab.)	REFID=62886
AAIJ	24X	EPJ C84 575	R. Aaij *et al.*	(LHCb Collab.)	REFID=62893
AAIJ	24Y	PR D110 L031104	R. Aaij *et al.*	(LHCb Collab.)	REFID=62928
HAYRAPETY...	24BA	EPJ C84 1062	A. Hayrapetyan *et al.*	(CMS Collab.)	REFID=63149
AAIJ	23BB	PRL 131 151801	R. Aaij *et al.*	(LHCb Collab.)	REFID=62580
AAIJ	23K	JHEP 2307 075	R. Aaij *et al.*	(LHCb Collab.)	REFID=62156
AAIJ	22K	PRL 128 191803	R. Aaij *et al.*	(LHCb Collab.)	REFID=61678
AAIJ	22M	PR D105 L051104	R. Aaij *et al.*	(LHCb Collab.)	REFID=61726
AAIJ	22R	JHEP 2203 153	R. Aaij *et al.*	(LHCb Collab.)	REFID=61783
AAIJ	21AD	PR D104 112008	R. Aaij *et al.*	(LHCb Collab.)	REFID=61478
AAIJ	21AJ	JHEP 2110 060	R. Aaij *et al.*	(LHCb Collab.)	REFID=61553

AAIJ	21B	PL B815 136172	R. Aaij *et al.*	(LHCb Collab.)	REFID=61102
AAIJ	21R	JHEP 2105 095	R. Aaij *et al.*	(LHCb Collab.)	REFID=61303
AAIJ	20AB	PR D102 051101	R. Aaij *et al.*	(LHCb Collab.)	REFID=60645
AAIJ	20AK	PR D102 112012	R. Aaij *et al.*	(LHCb Collab.)	REFID=60748
AAIJ	20M	JHEP 2005 040	R. Aaij *et al.*	(LHCb Collab.)	REFID=60494
AAIJ	20O	JHEP 2006 110	R. Aaij *et al.*	(LHCb Collab.)	REFID=60503
SIRUNYAN	20H	PL B802 135203	A.M. Sirunyan *et al.*	(CMS Collab.)	REFID=60384
AAIJ	19AH	EPJ C79 745	R. Aaij *et al.*	(LHCb Collab.)	REFID=59963
AAIJ	19AN	JHEP 1909 028	R. Aaij *et al.*	(LHCb Collab.)	REFID=60080
AAIJ	19F	JHEP 1903 126	R. Aaij *et al.*	(LHCb Collab.)	REFID=59659
AAIJ	19Z	PRL 123 031801	R. Aaij *et al.*	(LHCb Collab.)	REFID=59802
AAIJ	18AF	JHEP 1808 131	R. Aaij *et al.*	(LHCb Collab.)	REFID=59141
AAIJ	18AG	JHEP 1808 039	R. Aaij *et al.*	(LHCb Collab.)	REFID=59146
AAIJ	18AO	JHEP 1809 145 (errat.)	R. Aaij *et al.*	(LHCb Collab.)	REFID=59343
AAIJ	18AP	JHEP 1809 146	R. Aaij *et al.*	(LHCb Collab.)	REFID=59344
AAIJ	18AW	PL B784 101	R. Aaij *et al.*	(LHCb Collab.)	REFID=59397
AAIJ	18AX	PL B787 124	R. Aaij *et al.*	(LHCb Collab.)	REFID=59409
AAIJ	18Q	JHEP 1802 098	R. Aaij *et al.*	(LHCb Collab.)	REFID=59075
PDG	18	PR D98 030001	M. Tanabashi *et al.*	(PDG Collab.)	REFID=59304
SIRUNYAN	18BY	EPJ C78 457	A.M. Sirunyan *et al.*	(CMS Collab.)	REFID=59185
SIRUNYAN	18R	PR D97 072010	A.M. Sirunyan *et al.*	(CMS Collab.)	REFID=58922
AAIJ	17AM	PRL 119 062001	R. Aaij *et al.*	(LHCb Collab.)	REFID=57948
AAIJ	17BF	PL B774 139	R. Aaij *et al.*	(LHCb Collab.)	REFID=58252
AAIJ	17H	NATP 13 391	R. Aaij *et al.*	(LHCb Collab.)	REFID=57763
AAIJ	17P	JHEP 1704 029	R. Aaij *et al.*	(LHCb Collab.)	REFID=57805
AAIJ	17S	JHEP 1705 030	R. Aaij *et al.*	(LHCb Collab.)	REFID=57813
AAIJ	17T	JHEP 1706 108	R. Aaij *et al.*	(LHCb Collab.)	REFID=57816
AAIJ	16	JHEP 1601 012	R. Aaij *et al.*	(LHCb Collab.)	REFID=57025
AAIJ	16A	CP C40 011001	R. Aaij *et al.*	(LHCb Collab.)	REFID=57151
AAIJ	16J	PL B759 282	R. Aaij *et al.*	(LHCb Collab.)	REFID=57234
AAIJ	16W	JHEP 1605 081	R. Aaij *et al.*	(LHCb Collab.)	REFID=57331
AAIJ	16Y	JHEP 1605 132	R. Aaij *et al.*	(LHCb Collab.)	REFID=57333
AAD	15CH	PL B751 63	G. Aad *et al.*	(ATLAS Collab.)	REFID=56932
AAIJ	15AE	JHEP 1506 115	R. Aaji *et al.*	(LHCb Collab.)	REFID=56631
Also		JHEP 1809 145 (errat.)	R. Aaij *et al.*	(LHCb Collab.)	REFID=59343
AAIJ	15AH	JHEP 1509 006	R. Aaij *et al.*	(LHCb Collab.)	REFID=56641
AAIJ	15BG	NATP 11 743	R. Aaij *et al.*	(LHCb Collab.)	REFID=57095
ABAZOV	15I	PR D91 072008	V.M. Abazov *et al.*	(D0 Collab.)	REFID=56732
AAD	14L	PR D89 092009	G. Aad *et al.*	(ATLAS Collab.)	REFID=55783
AAIJ	14AA	PRL 112 202001	R. Aaij *et al.*	(LHCb Collab.)	REFID=55843
AAIJ	14E	JHEP 1404 114	R. Aaij *et al.*	(LHCb Collab.)	REFID=55689
AAIJ	14H	PR D89 032001	R. Aaij *et al.*	(LHCb Collab.)	REFID=55694
AAIJ	14I	JHEP 1408 143	R. Aaij *et al.*	(LHCb Collab.)	REFID=55722
AAIJ	14K	JHEP 1407 103	R. Aaij *et al.*	(LHCb Collab.)	REFID=55724
AAIJ	14Q	JHEP 1404 087	R. Aaij *et al.*	(LHCb Collab.)	REFID=55730
AAIJ	14U	PL B734 122	R. Aaij *et al.*	(LHCb Collab.)	REFID=55763
AALTONEN	14B	PR D89 072014	T. Aaltonen *et al.*	(CDF Collab.)	REFID=55804
AALTONEN	14P	PRL 113 242001	T. Aaltonen *et al.*	(CDF Collab.)	REFID=56259
PDG	14	CP C38 070001	K. Olive *et al.*	(PDG Collab.)	REFID=55687
AAD	13U	PR D87 032002	G. Aad *et al.*	(ATLAS Collab.)	REFID=54939
AAIJ	13AG	PL B724 27	R. Aaij *et al.*	(LHCb Collab.)	REFID=55086
AAIJ	13AJ	PL B725 25	R. Aaij *et al.*	(LHCb Collab.)	REFID=55089
AAIJ	13AV	PRL 110 182001	R. Aaij *et al.*	(LHCb Collab.)	REFID=55206
AAIJ	13BB	PRL 111 102003	R. Aaij *et al.*	(LHCb Collab.)	REFID=55228
CHATRCHYAN	13AC	JHEP 1307 163	S. Chatrchyan *et al.*	(CMS Collab.)	REFID=55044
AAIJ	12AR	JHEP 1210 037	R. Aaij *et al.*	(LHCb Collab.)	REFID=54595
AAIJ	12E	PL B708 241	R. Aaij *et al.*	(LHCb Collab.)	REFID=54043
AALTONEN	12A	PR D85 032003	T. Aaltonen *et al.*	(CDF Collab.)	REFID=54045
ABAZOV	12U	PR D85 112003	V.M. Abazov *et al.*	(D0 Collab.)	REFID=54350
AAIJ	11E	PR D84 092001	R. Aaij *et al.*	(LHCb Collab.)	REFID=53856
Also		PR D85 039904 (errat.)	R. Aaij *et al.*	(LHCb Collab.)	REFID=54371
AALTONEN	11	PRL 106 121804	T. Aaltonen *et al.*	(CDF Collab.)	REFID=53674
AALTONEN	11AI	PRL 107 201802	T. Aaltonen *et al.*	(CDF Collab.)	REFID=53836
AALTONEN	11N	PRL 106 181802	T. Aaltonen *et al.*	(CDF Collab.)	REFID=16447
ABAZOV	11O	PR D84 031102	V.M. Abazov *et al.*	(D0 Collab.)	REFID=53707
AALTONEN	10B	PRL 104 102002	T. Aaltonen *et al.*	(CDF Collab.)	REFID=53241
AALTONEN	09C	PRL 103 031801	T. Aaltonen *et al.*	(CDF Collab.)	REFID=52698
AALTONEN	09E	PR D79 032001	T. Aaltonen *et al.*	(CDF Collab.)	REFID=52701
ABAZOV	07S	PRL 99 142001	V.M. Abazov *et al.*	(D0 Collab.)	REFID=52008
ABAZOV	07U	PRL 99 182001	V.M. Abazov *et al.*	(D0 Collab.)	REFID=52043
ABULENCIA	07A	PRL 98 122001	A. Abulencia *et al.*	(FNAL CDF Collab.)	REFID=51662
ABULENCIA	07B	PRL 98 122002	A. Abulencia *et al.*	(FNAL CDF Collab.)	REFID=51663
LEITNER	07	NPBPS 174 169	O. Leitner, Z.J. Ajaltouni		REFID=57586
ACOSTA	06	PRL 96 202001	D. Acosta *et al.*	(CDF Collab.)	REFID=51231
ABAZOV	05C	PRL 94 102001	V.M. Abazov *et al.*	(D0 Collab.)	REFID=50511
ACOSTA	05O	PR D72 051104	D. Acosta *et al.*	(CDF Collab.)	REFID=50888
ABDALLAH	04A	PL B585 63	J. Abdallah *et al.*	(DELPHI Collab.)	REFID=49834
ACOSTA	02G	PR D66 112002	D. Acosta *et al.*	(CDF Collab.)	REFID=49132
ABREU	99W	EPJ C10 185	P. Abreu *et al.*	(DELPHI Collab.)	REFID=47301
ACKERSTAFF	98G	PL B426 161	K. Ackerstaff *et al.*	(OPAL Collab.)	REFID=45875
BARATE	98D	EPJ C2 197	R. Barate *et al.*	(ALEPH Collab.)	REFID=45878
ABE	97B	PR D55 1142	F. Abe *et al.*	(CDF Collab.)	REFID=45267
ABE	96M	PRL 77 1439	F. Abe *et al.*	(CDF Collab.)	REFID=44810
ABREU	96D	ZPHY C71 199	P. Abreu *et al.*	(DELPHI Collab.)	REFID=44691
ABREU	96N	PL B374 351	P. Abreu *et al.*	(DELPHI Collab.)	REFID=44895
ADAM	96D	ZPHY C72 207	W. Adam *et al.*	(DELPHI Collab.)	REFID=45276
BUSKULIC	96L	PL B380 442	D. Buskulic *et al.*	(ALEPH Collab.)	REFID=44845
BUSKULIC	96V	PL B384 471	D. Buskulic *et al.*	(ALEPH Collab.)	REFID=44909
PDG	96	PR D54 1	R. M. Barnett *et al.*	(PDG Collab.)	REFID=44495
ABREU	95S	ZPHY C68 375	P. Abreu *et al.*	(DELPHI Collab.)	REFID=44466
AKERS	95K	PL B353 402	R. Akers *et al.*	(OPAL Collab.)	REFID=44324
BUSKULIC	95L	PL B357 685	D. Buskulic *et al.*	(ALEPH Collab.)	REFID=44468
ABE	93B	PR D47 2639	F. Abe *et al.*	(CDF Collab.)	REFID=43282
BUSKULIC	92E	PL B294 145	D. Buskulic *et al.*	(ALEPH Collab.)	REFID=42241
ALBAJAR	91E	PL B273 540	C. Albajar *et al.*	(UA1 Collab.)	REFID=41642
BARI	91	NC 104A 1787	G. Bari *et al.*	(CERN R422 Collab.)	REFID=41918
ARENTON	86	NP B274 707	M.W. Arenton *et al.*	(ARIZ, NDAM, VAND)	REFID=12155
BASILE	81	LNC 31 97	M. Basile *et al.*	(CERN R415 Collab.)	REFID=12151