



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

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

### $\Lambda_b^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>5620.2 ± 1.6</b>	<b>OUR AVERAGE</b>			
5619.7 ± 1.2 ± 1.2		<sup>1</sup> ACOSTA 06	CDF	$p\bar{p}$ at 1.96 TeV
5621 ± 4 ± 3		<sup>2</sup> ABE 97B	CDF	$p\bar{p}$ at 1.8 TeV
5668 ± 16 ± 8	4	<sup>3</sup> ABREU 96N	DLPH	$e^+e^- \rightarrow Z$
5614 ± 21 ± 4	4	<sup>3</sup> BUSKULIC 96L	ALEP	$e^+e^- \rightarrow Z$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
not seen		<sup>4</sup> ABE 93B	CDF	Sup. by ABE 97B
5640 ± 50 ± 30	16	<sup>5</sup> ALBAJAR 91E	UA1	$p\bar{p}$ 630 GeV
5640 $\begin{smallmatrix} +100 \\ -210 \end{smallmatrix}$	52	BARI 91	SFM	$\Lambda_b^0 \rightarrow pD^0\pi^-$
5650 $\begin{smallmatrix} +150 \\ -200 \end{smallmatrix}$	90	BARI 91	SFM	$\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^+ \pi^- \pi^-$

<sup>1</sup> Uses exclusively reconstructed final states containing a  $J/\psi \rightarrow \mu^+ \mu^-$  decays.

<sup>2</sup> ABE 97B observed 38 events with a background of  $18 \pm 1.6$  events in the mass range 5.60–5.65 GeV/ $c^2$ , a significance of  $> 3.4$  standard deviations.

<sup>3</sup> Uses 4 fully reconstructed  $\Lambda_b$  events.

<sup>4</sup> ABE 93B states that, based on the signal claimed by ALBAJAR 91E, CDF should have found  $30 \pm 23 \Lambda_b^0 \rightarrow J/\psi(1S)\Lambda$  events. Instead, CDF found not more than 2 events.

<sup>5</sup> ALBAJAR 91E claims  $16 \pm 5$  events above a background of  $9 \pm 1$  events, a significance of about 5 standard deviations.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>339.2 ± 1.4 ± 0.1</b>	<sup>6</sup> ACOSTA 06	CDF	$p\bar{p}$ at 1.96 TeV

<sup>6</sup> Uses exclusively reconstructed final states containing a  $J/\psi \rightarrow \mu^+ \mu^-$  decays.

### $\Lambda_b^0$ MEAN LIFE

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

"OUR EVALUATION" is an average using rescaled values of the data listed below. The average and rescaling were performed by the Heavy Flavor Averaging Group (HFAG) and are described at

<http://www.slac.stanford.edu/xorg/hfag/>. The averaging/rescaling procedure takes into account correlations between the measurements and asymmetric lifetime errors.

<u>VALUE (<math>10^{-12}</math> s)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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**1.391<sup>+0.038</sup><sub>-0.037</sub> OUR EVALUATION**

1.401 ± 0.046 ± 0.035	7	AALTONEN	10B	CDF	$\rho\bar{p}$ at 1.96 TeV
1.218 <sup>+0.130</sup> <sub>-0.115</sub> ± 0.042	8	ABAZOV	07S	D0	$\rho\bar{p}$ at 1.96 TeV
1.290 <sup>+0.119</sup> <sub>-0.110</sub> <sup>+0.087</sup> <sub>-0.091</sub>	9	ABAZOV	07U	D0	$\rho\bar{p}$ at 1.96 TeV
1.593 <sup>+0.083</sup> <sub>-0.078</sub> ± 0.033	8	ABULENCIA	07A	CDF	$\rho\bar{p}$ at 1.96 TeV
1.11 <sup>+0.19</sup> <sub>-0.18</sub> ± 0.05	10	ABREU	99W	DLPH	$e^+e^- \rightarrow Z$
1.29 <sup>+0.24</sup> <sub>-0.22</sub> ± 0.06	10	ACKERSTAFF	98G	OPAL	$e^+e^- \rightarrow Z$
1.21 ± 0.11	10	BARATE	98D	ALEP	$e^+e^- \rightarrow Z$
1.32 ± 0.15 ± 0.07	11	ABE	96M	CDF	$\rho\bar{p}$ at 1.8 TeV

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

1.22 <sup>+0.22</sup> <sub>-0.18</sub> ± 0.04	8	ABAZOV	05C	D0	Repl. by ABAZOV 07S
1.19 <sup>+0.21</sup> <sub>-0.18</sub> <sup>+0.07</sup> <sub>-0.08</sub>		ABREU	96D	DLPH	Repl. by ABREU 99W
1.14 <sup>+0.22</sup> <sub>-0.19</sub> ± 0.07	69	AKERS	95K	OPAL	Repl. by ACKERSTAFF 98G
1.02 <sup>+0.23</sup> <sub>-0.18</sub> ± 0.06	44	BUSKULIC	95L	ALEP	Repl. by BARATE 98D

<sup>7</sup> Measured mean life using fully reconstructed  $\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-$  decays.

<sup>8</sup> Measured mean life using fully reconstructed  $\Lambda_b^0 \rightarrow J/\psi \Lambda$  decays.

<sup>9</sup> Measured using semileptonic decays  $\Lambda_b^0 \rightarrow \Lambda_c^+ \mu \nu X$  and  $\Lambda_c^+ \rightarrow K_S^0 p$ .

<sup>10</sup> Measured using  $\Lambda_c \ell^-$  and  $\Lambda \ell^+ \ell^-$ .

<sup>11</sup> Excess  $\Lambda_c \ell^-$ , decay lengths.

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

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

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
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**0.99 ± 0.10 OUR AVERAGE** Error includes scale factor of 2.0.

0.811 <sup>+0.096</sup> <sub>-0.087</sub> ± 0.034	12,13	ABAZOV	07S D0	$\rho\bar{p}$ at 1.96 TeV
1.041 ± 0.057	14	ABULENCIA	07A CDF	$\rho\bar{p}$ at 1.96 TeV

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

0.87 <sup>+0.17</sup> <sub>-0.14</sub> ± 0.03	14	ABAZOV	05C D0	Repl. by ABAZOV 07S
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<sup>12</sup> Uses fully reconstructed  $\Lambda_b \rightarrow J/\psi \Lambda$  decays.

<sup>13</sup> Uses  $B^0 \rightarrow J/\psi K_S^0$  decays for denominator.

<sup>14</sup> Measured mean life ratio using fully reconstructed decays.

## $\Lambda_b^0$ DECAY MODES

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

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

Mode	Fraction ( $\Gamma_i/\Gamma$ )	Confidence level
$\Gamma_1$ $J/\psi(1S)\Lambda \times B(b \rightarrow \Lambda_b^0)$	$(4.7 \pm 2.3) \times 10^{-5}$	
$\Gamma_2$ $\rho D^0 \pi^-$		
$\Gamma_3$ $\Lambda_c^+ \pi^-$	$(8.8 \pm 3.2) \times 10^{-3}$	
$\Gamma_4$ $\Lambda_c^+ a_1(1260)^-$	seen	
$\Gamma_5$ $\Lambda_c^+ \pi^+ \pi^- \pi^-$		
$\Gamma_6$ $\Lambda K^0 2\pi^+ 2\pi^-$		
$\Gamma_7$ $\Lambda_c^+ \ell^- \bar{\nu}_\ell \text{ anything}$	[a] $(10.7 \pm 3.2) \%$	
$\Gamma_8$ $\Lambda_c^+ \ell^- \bar{\nu}_\ell$	$(5.0^{+1.9}_{-1.4}) \%$	
$\Gamma_9$ $\Lambda_c^+ \pi^+ \pi^- \ell^- \bar{\nu}_\ell$	$(5.6 \pm 3.1) \%$	
$\Gamma_{10}$ $\Lambda_c(2595)^+ \ell^- \bar{\nu}_\ell$	$(6.3^{+4.0}_{-3.1}) \times 10^{-3}$	
$\Gamma_{11}$ $\Lambda_c(2625)^+ \ell^- \bar{\nu}_\ell$	$(1.1^{+0.6}_{-0.4}) \%$	
$\Gamma_{12}$ $\Sigma_c(2455)^0 \pi^+ \ell^- \bar{\nu}_\ell$		
$\Gamma_{13}$ $\Sigma_c(2455)^{++} \pi^- \ell^- \bar{\nu}_\ell$		
$\Gamma_{14}$ $\rho h^-$	[b] $< 2.3 \times 10^{-5}$	90%
$\Gamma_{15}$ $\rho \pi^-$	$(3.8 \pm 1.3) \times 10^{-6}$	
$\Gamma_{16}$ $\rho K^-$	$(6.0 \pm 1.9) \times 10^{-6}$	
$\Gamma_{17}$ $\Lambda \gamma$	$< 1.3 \times 10^{-3}$	90%

[a] Not a pure measurement. See note at head of  $\Lambda_b^0$  Decay Modes.

[b] Here  $h^-$  means  $\pi^-$  or  $K^-$ .

## $\Lambda_b^0$ BRANCHING RATIOS

$\Gamma(J/\psi(1S)\Lambda \times B(b \rightarrow \Lambda_b^0))/\Gamma_{\text{total}}$					$\Gamma_1/\Gamma$
VALUE (units $10^{-4}$ )	EVTS	DOCUMENT ID	TECN	COMMENT	
<b><math>0.47 \pm 0.23 \pm 0.02</math></b>	15	ABE	97B	CDF $\rho \bar{p}$ at 1.8 TeV	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
18 $\pm 6 \pm 9$	16	ALBAJAR	91E	UA1 $\rho \bar{p}$ at 630 GeV	

<sup>15</sup> ABE 97B reports  $[B(\Lambda_b^0 \rightarrow J/\psi \Lambda) \times B(b \rightarrow \Lambda_b^0)] / [B(B^0 \rightarrow J/\psi K_S^0) \times B(b \rightarrow B^0)] = 0.27 \pm 0.12 \pm 0.05$ . We multiply by our best value  $B(B^0 \rightarrow J/\psi K_S^0) \times B(b \rightarrow B^0) = (1.74 \pm 0.08) \times 10^{-4}$ . Our first error is their experiments's error and our second error is the systematic error from using our best value.

$\Gamma(\rho D^0 \pi^-)/\Gamma_{\text{total}}$   $\Gamma_2/\Gamma$

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

$\Gamma(\Lambda_c^+ \pi^-)/\Gamma_{\text{total}}$   $\Gamma_3/\Gamma$

VALUE (units $10^{-3}$ )	EVTS	DOCUMENT ID	TECN	COMMENT
<b><math>8.8 \pm 2.8 \pm 1.5</math></b>		<sup>16</sup> ABULENCIA	07B	CDF $p\bar{p}$ at 1.96 TeV
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
seen	3	ABREU	96N	DLPH $\Lambda_c^+ \rightarrow p K^- \pi^+$
seen	4	BUSKULIC	96L	ALEP $\Lambda_c^+ \rightarrow p K^- \pi^+$ , $\rho \bar{K}^0, \Lambda \pi^+ \pi^+ \pi^-$

<sup>16</sup> The result is obtained from  $(f_{\text{baryon}}/f_d) (B(\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^-)/B(\bar{B}^0 \rightarrow D^+ \pi^-)) = 0.82 \pm 0.08 \pm 0.11 \pm 0.22$ , assuming  $f_{\text{baryon}}/f_d = 0.25 \pm 0.04$  and  $B(\bar{B}^0 \rightarrow D^+ \pi^-) = (2.68 \pm 0.13) \times 10^{-3}$ .

$\Gamma(\Lambda_c^+ a_1(1260)^-)/\Gamma_{\text{total}}$   $\Gamma_4/\Gamma$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
<b>seen</b>	1	ABREU	96N	DLPH $\Lambda_c^+ \rightarrow p K^- \pi^+, a_1^- \rightarrow \rho^0 \pi^- \rightarrow \pi^+ \pi^- \pi^-$

$\Gamma(\Lambda_c^+ \pi^+ \pi^- \pi^-)/\Gamma_{\text{total}}$   $\Gamma_5/\Gamma$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
seen	90	BARI	91	SFM $\Lambda_c^+ \rightarrow p K^- \pi^+$

$\Gamma(\Lambda K^0 2\pi^+ 2\pi^-)/\Gamma_{\text{total}}$   $\Gamma_6/\Gamma$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
seen	4	<sup>17</sup> ARENTON	86	FMPS $\Lambda K_S^0 2\pi^+ 2\pi^-$

<sup>17</sup> See the footnote to the ARENTON 86 mass value.

$\Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell \text{ anything})/\Gamma_{\text{total}}$   $\Gamma_7/\Gamma$

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

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
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**0.107 ± 0.032 OUR AVERAGE**

0.101 ± 0.018 ± 0.026		18 BARATE	98D ALEP	$e^+ e^- \rightarrow Z$
0.14 $^{+0.05}_{-0.04}$ ± 0.04	29	19 ABREU	95S DLPH	$e^+ e^- \rightarrow Z$

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

0.089 ± 0.022 ± 0.023	55	20 BUSKULIC	95L ALEP	Repl. by BARATE 98D
0.18 ± 0.07 ± 0.05	21	21 BUSKULIC	92E ALEP	$\Lambda_c^+ \rightarrow \rho K^- \pi^+$

18 BARATE 98D reports  $[\Gamma(\Lambda_b^0 \rightarrow \Lambda_c^+ \ell^- \bar{\nu}_\ell \text{ anything})/\Gamma_{\text{total}}] \times [B(\bar{b} \rightarrow b\text{-baryon})] = 0.0086 \pm 0.0007 \pm 0.0014$  which we divide by our best value  $B(\bar{b} \rightarrow b\text{-baryon}) = (8.5 \pm 2.2) \times 10^{-2}$ . 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  $\Lambda \ell^+ \ell^-$ .

19 ABREU 95S reports  $[\Gamma(\Lambda_b^0 \rightarrow \Lambda_c^+ \ell^- \bar{\nu}_\ell \text{ anything})/\Gamma_{\text{total}}] \times [B(\bar{b} \rightarrow b\text{-baryon})] = 0.0118 \pm 0.0026^{+0.0031}_{-0.0021}$  which we divide by our best value  $B(\bar{b} \rightarrow b\text{-baryon}) = (8.5 \pm 2.2) \times 10^{-2}$ . Our first error is their experiment's error and our second error is the systematic error from using our best value.

20 BUSKULIC 95L reports  $[\Gamma(\Lambda_b^0 \rightarrow \Lambda_c^+ \ell^- \bar{\nu}_\ell \text{ anything})/\Gamma_{\text{total}}] \times [B(\bar{b} \rightarrow b\text{-baryon})] = 0.00755 \pm 0.0014 \pm 0.0012$  which we divide by our best value  $B(\bar{b} \rightarrow b\text{-baryon}) = (8.5 \pm 2.2) \times 10^{-2}$ . Our first error is their experiment's error and our second error is the systematic error from using our best value.

21 BUSKULIC 92E reports  $[\Gamma(\Lambda_b^0 \rightarrow \Lambda_c^+ \ell^- \bar{\nu}_\ell \text{ anything})/\Gamma_{\text{total}}] \times [B(\bar{b} \rightarrow b\text{-baryon})] = 0.015 \pm 0.0035 \pm 0.0045$  which we divide by our best value  $B(\bar{b} \rightarrow b\text{-baryon}) = (8.5 \pm 2.2) \times 10^{-2}$ . 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.

$\Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell)/\Gamma_{\text{total}}$   $\Gamma_8/\Gamma$

VALUE	DOCUMENT ID	TECN	COMMENT
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<b>0.050 <math>^{+0.011}_{-0.008}</math> <math>^{+0.016}_{-0.012}</math></b>	22 ABDALLAH	04A DLPH	$e^+ e^- \rightarrow Z^0$
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22 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  $\rho^2 = 2.03 \pm 0.46^{+0.72}_{-1.00}$ .

$\Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell)/\Gamma(\Lambda_c^+ \pi^-)$   $\Gamma_8/\Gamma_3$

VALUE	DOCUMENT ID	TECN	COMMENT
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<b>16.6 ± 3.0 <math>^{+2.8}_{-3.6}</math></b>	AALTONEN	09E CDF	$p\bar{p}$ at 1.96 TeV
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$\Gamma(\Lambda_c^+ \pi^+ \pi^- \ell^- \bar{\nu}_\ell)/\Gamma_{\text{total}}$   $\Gamma_9/\Gamma$

VALUE	DOCUMENT ID	TECN	COMMENT
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<b>0.056 <math>^{+0.031}_{-0.030}</math></b>	23 ABDALLAH	04A DLPH	$e^+ e^- \rightarrow Z^0$
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23 Derived from the fraction of  $\Gamma(\Lambda_b^0 \rightarrow \Lambda_c^+ \ell^- \bar{\nu}_\ell) / (\Gamma(\Lambda_b^0 \rightarrow \Lambda_c^+ \ell^- \bar{\nu}_\ell) + \Gamma(\Lambda_b^0 \rightarrow \Lambda_c^+ \pi^+ \pi^- \ell^- \bar{\nu}_\ell)) = 0.47^{+0.10+0.07}_{-0.08-0.06}$ .

$$\frac{\Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell) / [\Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell) + \Gamma(\Lambda_c^+ \pi^+ \pi^- \ell^- \bar{\nu}_\ell)]}{\Gamma_8 / (\Gamma_8 + \Gamma_9)}$$

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

$$\frac{\Gamma(\Lambda_c(2595)^+ \ell^- \bar{\nu}_\ell) / \Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell)}{\Gamma_{10} / \Gamma_8}$$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.126 \pm 0.033^{+0.047}_{-0.038}$	AALTONEN 09E	CDF	$p\bar{p}$ at 1.96 TeV

$$\frac{\Gamma(\Lambda_c(2625)^+ \ell^- \bar{\nu}_\ell) / \Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell)}{\Gamma_{11} / \Gamma_8}$$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.210 \pm 0.042^{+0.071}_{-0.050}$	AALTONEN 09E	CDF	$p\bar{p}$ at 1.96 TeV

$$\frac{[\frac{1}{2}\Gamma(\Sigma_c(2455)^0 \pi^+ \ell^- \bar{\nu}_\ell) + \frac{1}{2}\Gamma(\Sigma_c(2455)^{++} \pi^- \ell^- \bar{\nu}_\ell)] / \Gamma(\Lambda_c^+ \ell^- \bar{\nu}_\ell)}{(\frac{1}{2}\Gamma_{12} + \frac{1}{2}\Gamma_{13}) / \Gamma_8}$$

VALUE	DOCUMENT ID	TECN	COMMENT
$0.054 \pm 0.022^{+0.021}_{-0.018}$	AALTONEN 09E	CDF	$p\bar{p}$ at 1.96 TeV

$$\frac{\Gamma(p h^-) / \Gamma_{\text{total}}}{\Gamma_{14} / \Gamma}$$

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
$< 2.3 \times 10^{-5}$	90	<sup>24</sup> ACOSTA 05O	CDF	$p\bar{p}$ at 1.96 TeV

<sup>24</sup> Assumes  $f_\Lambda / f_d = 0.25$ , and equal momentum distribution for  $\Lambda_b$  and  $B$  mesons.

$$\frac{\Gamma(p \pi^-) / \Gamma_{\text{total}}}{\Gamma_{15} / \Gamma}$$

VALUE (units $10^{-6}$ )	CL%	DOCUMENT ID	TECN	COMMENT
$3.8 \pm 0.8 \pm 1.0$		<sup>25</sup> AALTONEN 09C	CDF	$p\bar{p}$ at 1.96 TeV

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

$< 50$  90 <sup>26</sup> BUSKULIC 96V ALEP  $e^+ e^- \rightarrow Z$

<sup>25</sup> AALTONEN 09C reports  $[\Gamma(\Lambda_b^0 \rightarrow p \pi^-) / \Gamma_{\text{total}}] / [B(B^0 \rightarrow K^+ \pi^-)] \times [B(\bar{b} \rightarrow b\text{-baryon})] / [B(\bar{b} \rightarrow B^0)] = 0.042 \pm 0.007 \pm 0.006$  which we multiply or divide by our best values  $B(B^0 \rightarrow K^+ \pi^-) = (1.94 \pm 0.06) \times 10^{-5}$ ,  $B(\bar{b} \rightarrow b\text{-baryon}) = (8.5 \pm 2.2) \times 10^{-2}$ ,  $B(\bar{b} \rightarrow B^0) = (40.1 \pm 1.3) \times 10^{-2}$ . Our first error is their experiment's error and our second error is the systematic error from using our best values.

<sup>26</sup> BUSKULIC 96V assumes PDG 96 production fractions for  $B^0$ ,  $B^+$ ,  $B_s$ ,  $b$  baryons.

$$\frac{\Gamma(p K^-) / \Gamma_{\text{total}}}{\Gamma_{16} / \Gamma}$$

VALUE (units $10^{-6}$ )	CL%	DOCUMENT ID	TECN	COMMENT
$6.0 \pm 1.1 \pm 1.6$		<sup>27</sup> AALTONEN 09C	CDF	$p\bar{p}$ at 1.96 TeV

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

$< 360$  90 <sup>28</sup> ADAM 96D DLPH  $e^+ e^- \rightarrow Z$

$< 50$  90 <sup>29</sup> BUSKULIC 96V ALEP  $e^+ e^- \rightarrow Z$

- <sup>27</sup> AALTONEN 09C reports  $[\Gamma(\Lambda_b^0 \rightarrow pK^-)/\Gamma_{\text{total}}] / [B(B^0 \rightarrow K^+\pi^-)] \times [B(\bar{b} \rightarrow b\text{-baryon})] / [B(\bar{b} \rightarrow B^0)] = 0.066 \pm 0.009 \pm 0.008$  which we multiply or divide by our best values  $B(B^0 \rightarrow K^+\pi^-) = (1.94 \pm 0.06) \times 10^{-5}$ ,  $B(\bar{b} \rightarrow b\text{-baryon}) = (8.5 \pm 2.2) \times 10^{-2}$ ,  $B(\bar{b} \rightarrow B^0) = (40.1 \pm 1.3) \times 10^{-2}$ . Our first error is their experiment's error and our second error is the systematic error from using our best values.
- <sup>28</sup> ADAM 96D assumes  $f_{B^0} = f_{B^-} = 0.39$  and  $f_{B_s} = 0.12$ .
- <sup>29</sup> BUSKULIC 96V assumes PDG 96 production fractions for  $B^0$ ,  $B^+$ ,  $B_s$ ,  $b$  baryons.

$\Gamma(\Lambda\gamma)/\Gamma_{\text{total}}$					$\Gamma_{17}/\Gamma$
VALUE	CL%	DOCUMENT ID	TECN	COMMENT	
$<1.3 \times 10^{-3}$	90	ACOSTA	02G CDF	$p\bar{p}$ at 1.8 TeV	

## $\Lambda_b^0$ REFERENCES

AALTONEN	10B	PRL 104 102002	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AALTONEN	09C	PRL 103 031801	T. Aaltonen <i>et al.</i>	(CDF Collab.)
AALTONEN	09E	PR D79 032001	T. Aaltonen <i>et al.</i>	(CDF Collab.)
ABAZOV	07S	PRL 99 142001	V.M. Abazov <i>et al.</i>	(D0 Collab.)
ABAZOV	07U	PRL 99 182001	V.M. Abazov <i>et al.</i>	(D0 Collab.)
ABULENCIA	07A	PRL 98 122001	A. Abulencia <i>et al.</i>	(FNAL CDF Collab.)
ABULENCIA	07B	PRL 98 122002	A. Abulencia <i>et al.</i>	(FNAL CDF Collab.)
ACOSTA	06	PRL 96 202001	D. Acosta <i>et al.</i>	(CDF Collab.)
ABAZOV	05C	PRL 94 102001	V.M. Abazov <i>et al.</i>	(D0 Collab.)
ACOSTA	05O	PR D72 051104R	D. Acosta <i>et al.</i>	(CDF Collab.)
ABDALLAH	04A	PL B585 63	J. Abdallah <i>et al.</i>	(DELPHI Collab.)
ACOSTA	02G	PR D66 112002	D. Acosta <i>et al.</i>	(CDF Collab.)
ABREU	99W	EPJ C10 185	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ACKERSTAFF	98G	PL B426 161	K. Ackerstaff <i>et al.</i>	(OPAL Collab.)
BARATE	98D	EPJ C2 197	R. Barate <i>et al.</i>	(ALEPH Collab.)
ABE	97B	PR D55 1142	F. Abe <i>et al.</i>	(CDF Collab.)
ABE	96M	PRL 77 1439	F. Abe <i>et al.</i>	(CDF Collab.)
ABREU	96D	ZPHY C71 199	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ABREU	96N	PL B374 351	P. Abreu <i>et al.</i>	(DELPHI Collab.)
ADAM	96D	ZPHY C72 207	W. Adam <i>et al.</i>	(DELPHI Collab.)
BUSKULIC	96L	PL B380 442	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
BUSKULIC	96V	PL B384 471	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
PDG	96	PR D54 1	R. M. Barnett <i>et al.</i>	
ABREU	95S	ZPHY C68 375	P. Abreu <i>et al.</i>	(DELPHI Collab.)
AKERS	95K	PL B353 402	R. Akers <i>et al.</i>	(OPAL Collab.)
BUSKULIC	95L	PL B357 685	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
ABE	93B	PR D47 R2639	F. Abe <i>et al.</i>	(CDF Collab.)
BUSKULIC	92E	PL B294 145	D. Buskulic <i>et al.</i>	(ALEPH Collab.)
ALBAJAR	91E	PL B273 540	C. Albajar <i>et al.</i>	(UA1 Collab.)
BARI	91	NC 104A 1787	G. Bari <i>et al.</i>	(CERN R422 Collab.)
ARENTON	86	NP B274 707	M.W. Arenton <i>et al.</i>	(ARIZ, NDAM, VAND)
BASILE	81	LNC 31 97	M. Basile <i>et al.</i>	(CERN R415 Collab.)