

Heavy Flavor Averaging Group

May 2013

Compilation of Λ_b Branching Fractions

All branching fractions are in units of 10^{-6}

In PDG2012 **New since PDG2012 (preliminary)** **New since PDG2012 (published)**

RPP#	Mode	PDG2012 Avg.	CDF	LHCb	New Avg.
19	$p\pi^-$	$3.5 \pm 0.8 \pm 0.6$	$3.5 \pm 0.8 \pm 0.6$		3.5 ± 1.0
20	pK^-	$5.5 \pm 1.0 \pm 1.0$	$5.5 \pm 1.0 \pm 1.0$		5.5 ± 1.4
21	$\Lambda\mu^+\mu^-$	$17.2 \pm 4.2 \pm 5.5$	$17.2 \pm 4.2 \pm 5.5$	$0.96 \pm 0.16 \pm 0.25$	0.99 ± 0.30

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Partial Branching Fraction

In PDG2012 **New since PDG2012 (preliminary)** **New since PDG2012 (published)**

All branching fractions are in units of 10^{-7}

RPP#	Mode	q^2 [(GeV/c ²) ²] †	PDG2012 Avg.	CDF	LHCb	New Avg.
21	$\Lambda\mu^+\mu^-$	< 2.0	$0.15 \pm 2.01 \pm 0.05$	$0.15 \pm 2.01 \pm 0.05$	$0.56 \pm 0.76 \pm 0.80$	0.41 ± 0.87
	$\Lambda\mu^+\mu^-$	[2.0, 4.3]	$1.8 \pm 1.7 \pm 0.6$	$1.8 \pm 1.7 \pm 0.6$	$0.71 \pm 0.60 \pm 0.10$	0.91 ± 0.55
	$\Lambda\mu^+\mu^-$	[4.3, 8.68]	$-0.2 \pm 1.6 \pm 0.1$	$-0.2 \pm 1.6 \pm 0.1$	$0.66 \pm 0.72 \pm 0.16$	0.40 ± 0.62
	$\Lambda\mu^+\mu^-$	[10.09, 12.86]	$3.0 \pm 1.5 \pm 1.0$	$3.0 \pm 1.5 \pm 1.0$	$1.55 \pm 0.58 \pm 0.55$	1.96 ± 0.68
	$\Lambda\mu^+\mu^-$	[14.18, 16.00]	$1.0 \pm 0.7 \pm 0.3$	$1.0 \pm 0.7 \pm 0.3$	$1.44 \pm 0.44 \pm 0.42$	1.19 ± 0.40
	$\Lambda\mu^+\mu^-$	> 16.00	$7.0 \pm 1.9 \pm 2.2$	$7.0 \pm 1.9 \pm 2.2$	$4.7 \pm 0.8 \pm 1.2$	5.5 ± 1.2

† see the original paper for the exact q^2 selection.

Λ_b Branching Fractions:

CDF References

- [1] CDF Collaboration, (A. Aaltonen *et al.*), Phys. Rev. Lett. **103**, 031801 (2009).
- [2] CDF Collaboration, (A. Aaltonen *et al.*), Phys. Rev. Lett. **107**, 201802 (2011).
- [3] LHCb Collaboration (R. Aaij *et al.*), arXiv:1306.2577 (2013).