

Heavy Flavor Averaging Group  
September 2011

Compilation of  $B^+$  Baryonic Branching Fractions  
All branching fractions are in units of  $10^{-6}$ ; limits are 90% CL

In PDG2010    New since PDG2010 (preliminary)    New since PDG2010 (published)

RPP#	Mode	PDG2010 Avg.	BABAR	Belle	CLEO	New Avg.
368	$p\bar{p}\pi^+$	$1.62 \pm 0.20$	$1.69 \pm 0.29 \pm 0.26$ †	$1.57^{+0.17}_{-0.15} \pm 0.12$ §	< 160	$1.60^{+0.18}_{-0.17}$
371	$p\bar{p}K^+$	$5.9 \pm 0.5$	$6.7 \pm 0.5 \pm 0.4$ †	$5.00^{+0.24}_{-0.22} \pm 0.32$ §		$5.48 \pm 0.34$
372	$\Theta^{++}\bar{p}$ <sup>1</sup>	< 0.091	< 0.09	< 0.091		< 0.09
373	$f_J(2221)K^+$ <sup>2</sup>	< 0.41		< 0.41		< 0.41
374	$p\bar{\Lambda}(1520)$	< 1.5	< 1.5			< 1.5
376	$p\bar{p}K^{*+}$	$3.6^{+0.8}_{-0.7}$	$5.3 \pm 1.5 \pm 1.3$ †	$3.38^{+0.73}_{-0.60} \pm 0.39$ ‡		$3.64^{+0.79}_{-0.70}$
377	$f_J(2221)K^{*+}$ <sup>2</sup>	< 0.77	< 0.77			< 0.77
378	$p\bar{\Lambda}$	< 0.32		< 0.32	< 1.5	< 0.32
380	$p\bar{\Lambda}\pi^0$	$3.00^{+0.7}_{-0.6}$		$3.00^{+0.61}_{-0.53} \pm 0.33$		$3.00^{+0.69}_{-0.62}$
381	$p\bar{\Sigma}(1385)^0$	< 0.47		< 0.47		< 0.47
382	$\Delta^+\bar{\Lambda}$	< 0.82		< 0.82		< 0.82
384	$p\bar{\Lambda}\pi^+\pi^-$ (NR)	$5.9 \pm 1.1$		$5.92^{+0.88}_{-0.84} \pm 0.69$		$5.92^{+1.12}_{-1.09}$
385	$p\bar{\Lambda}\rho^0$	$4.8 \pm 0.9$		$4.78^{+0.67}_{-0.64} \pm 0.60$		$4.78^{+0.90}_{-0.88}$
386	$p\bar{\Lambda}f_2(1270)$	$2.0 \pm 0.8$		$2.03^{+0.77}_{-0.72} \pm 0.27$		$2.03^{+0.82}_{-0.77}$
387	$\Lambda\bar{\Lambda}\pi^+$	< 0.94		< 0.94 §		< 0.94 §
388	$\Lambda\bar{\Lambda}K^+$	$3.4 \pm 0.6$		$3.38^{+0.41}_{-0.36} \pm 0.41$ ‡		$3.38^{+0.58}_{-0.55}$
389	$\Lambda\bar{\Lambda}K^{*+}$	$2.2^{+1.2}_{-0.9}$		$2.19^{+1.13}_{-0.88} \pm 0.33$ §		$2.19^{+1.18}_{-0.94}$
390	$\bar{\Delta}^0 p$	< 1.38		< 1.38 §	< 380	< 1.38 §
391	$\Delta^{++}\bar{p}$	< 0.14		< 0.14 §	< 150	< 0.14 §

§Di-baryon mass is less than  $2.85 \text{ GeV}/c^2$ ; † Charmonium decays to  $p\bar{p}$  have been statistically subtracted;

‡ The charmonium mass region has been vetoed; <sup>1</sup>  $\Theta(1540)^{++} \rightarrow K^+p$  (pentaquark candidate);

<sup>2</sup> Product BF — daughter BF taken to be 100%

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RPP#	Mode	PDG2010 Avg.	BABAR	Belle	CLEO	New Avg.
366	$p\bar{p}$	$< 0.11$	$< 0.27$	$< 0.11$	$< 1.4$	$< 0.11$
368	$p\bar{p}K^0$	$2.66 \pm 0.32$	$3.0 \pm 0.5 \pm 0.3 \dagger$	$2.51^{+0.35}_{-0.29} \pm 0.21 \ddagger$		$2.66^{+0.34}_{-0.32}$
369	$\Theta^+\bar{p}^1$	$< 0.05$	$< 0.05$	$< 0.23$		$< 0.05$
370	$f_J(2221)K^0$ <sup>2</sup>	$< 0.45$	$< 0.45$			$< 0.45$
371	$p\bar{p}K^{*0}$	$1.24^{+0.28}_{-0.25}$	$1.47 \pm 0.45 \pm 0.40 \dagger$	$1.18^{+0.29}_{-0.25} \pm 0.11 \ddagger$		$1.24^{+0.28}_{-0.25}$
372	$f_J(2221)K^{*0}$ <sup>2</sup>	$< 0.15$	$< 0.15$			$< 0.15$
373	$p\bar{\Lambda}\pi^-$	$3.14 \pm 0.29$	$3.07 \pm 0.31 \pm 0.23$	$3.23^{+0.33}_{-0.29} \pm 0.29$	$< 13$	$3.14^{+0.29}_{-0.28}$
374	$p\bar{\Sigma}(1385)^-$	$< 0.26$		$< 0.26$		$< 0.26$
375	$\Delta^0\bar{\Lambda}$	$< 0.93$		$< 0.93$		$< 0.93$
376	$p\bar{\Lambda}K^-$	$< 0.82$		$< 0.82$		$< 0.82$
377	$p\bar{\Sigma}^0\pi^-$	$< 3.8$		$< 3.8$		$< 3.8$
340	$\bar{\Lambda}\Lambda$	$< 0.32$		$< 0.32$	$< 1.2$	$< 0.32$
379	$\bar{\Lambda}\Lambda K^0$	$4.8^{+1.0}_{-0.9}$		$4.76^{+0.84}_{-0.68} \pm 0.61 \ddagger$		$4.76^{+1.04}_{-0.91}$
380	$\Lambda\bar{\Lambda}K^{*0}$	$2.5^{+0.9}_{-0.8}$		$2.46^{+0.87}_{-0.72} \pm 0.34 \ddagger$		$2.46^{+0.93}_{-0.80}$

$\dagger$  Charmonium decays to  $p\bar{p}$  have been statistically subtracted;  $\ddagger$  The charmonium mass region has been vetoed; <sup>1</sup>  $\Theta(1540)^+ \rightarrow pK^0$  (pentaquark candidate); <sup>2</sup> Product BF — daughter BF taken to be 100%.

# Charmless Baryonic Decay References

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