

Heavy Flavor Averaging Group  
Sept. 2008

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

In PDG2008    New since PDG2008 (preliminary)    New since PDG2008 (published)

| RPP# | Mode                              | PDG2008 Avg.         | BABAR                      | Belle  | CLEO  | New Avg.               |
|------|-----------------------------------|----------------------|----------------------------|--|-------|------------------------|
| 327  | $p\bar{p}\pi^+$                   | $1.62 \pm 0.2$       | $1.69 \pm 0.29 \pm 0.26$ † | $1.57_{-0.15}^{+0.17} \pm 0.12$ §  | < 160 | $1.60_{-0.17}^{+0.18}$ |
| 330  | $p\bar{p}K^+$                     | $5.9 \pm 0.5$        | $6.7 \pm 0.5 \pm 0.4$ †    | $5.00_{-0.22}^{+0.24} \pm 0.32$ §  |       | $5.48 \pm 0.34$        |
| 331  | $\Theta^{++}\bar{p}$ <sup>1</sup> | < 0.091              | < 0.09                     | < 0.091  |       | < 0.09                 |
| 332  | $f_J(2221)K^+$ <sup>2</sup>       | < 0.41               |                            | < 0.41   |       | < 0.41                 |
| 333  | $p\bar{\Lambda}(1520)$            | < 1.5                | < 1.5                      |  |       | < 1.5                  |
| 335  | $p\bar{p}K^{*+}$                  | $6.6 \pm 2.3$        | $5.3 \pm 1.5 \pm 1.3$ †    | <span style="color: red;"><math>3.38_{-0.60}^{+0.73} \pm 0.39</math> ‡</span>  |       | $3.64_{-0.70}^{+0.79}$ |
| 336  | $f_J(2221)K^{*+}$ <sup>2</sup>    | < 0.77               | < 0.77                     |  |       | < 0.77                 |
| 337  | $p\bar{\Lambda}$                  | < 0.32               |                            | < 0.32   | < 1.5 | < 0.32                 |
| 339  | $p\bar{\Lambda}\pi^0$             | $3.00_{-0.6}^{+0.7}$ |                            | $3.00_{-0.53}^{+0.61} \pm 0.33$  |       | $3.00_{-0.62}^{+0.69}$ |
| 340  | $p\bar{\Sigma}(1385)^0$           | < 0.47               |                            | < 0.47   |       | < 0.47                 |
| 341  | $\Delta^+\bar{\Lambda}$           | < 0.82               |                            | < 0.82   |       | < 0.82                 |
| 344  | $\Lambda\bar{\Lambda}\pi^+$       | < 2.8                |                            | <span style="color: blue;">&lt; 0.94</span> ‡                                  |       | < 0.94 ‡               |
| 345  | $\Lambda\bar{\Lambda}K^+$         | $2.9_{-0.8}^{+1.0}$  |                            | <span style="color: blue;"><math>3.38_{-0.36}^{+0.41} \pm 0.41</math></span> ‡ |       | $3.38_{-0.55}^{+0.58}$ |
| —    | $\Lambda\bar{\Lambda}K^{*+}$      | New                  |                            | <span style="color: blue;"><math>2.19_{-0.89}^{+1.13} \pm 0.22</math></span> ‡ |       | $2.19_{-0.92}^{+1.15}$ |
| 346  | $\bar{\Delta}^0 p$                | < 1.38               |                            | < 1.38 §   | < 380 | < 1.38 §               |
| 347  | $\Delta^{++}\bar{p}$              | < 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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|------|--------------------------------|---------------|---|--|---------|------------------------|
| 328  | $p\bar{p}$                     | $< 0.11$      | $< 0.27$  | $< 0.11$   | $< 1.4$ | $< 0.11$               |
| 330  | $p\bar{p}K^0$                  | $2.7 \pm 0.4$ | $3.0 \pm 0.5 \pm 0.3$ †   | <span style="color: red;"><math>2.51_{-0.29}^{+0.35} \pm 0.21</math> ‡</span>  |         | $2.66_{-0.32}^{+0.34}$ |
| 331  | $\Theta^+\bar{p}$ <sup>1</sup> | $< 0.05$      | $< 0.05$  | $< 0.23$   |         | $< 0.05$               |
| 332  | $f_J(2221)K^0$ <sup>2</sup>    | $< 0.45$      | $< 0.45$  |  |         | $< 0.45$               |
| 333  | $p\bar{p}K^{*0}$               | $1.5 \pm 0.6$ | $1.47 \pm 0.45 \pm 0.40$ †  | <span style="color: red;"><math>1.18_{-0.25}^{+0.29} \pm 0.11</math> ‡</span>  |         | $1.24_{-0.25}^{+0.28}$ |
| 334  | $f_J(2221)K^{*0}$ <sup>2</sup> | $< 0.15$      | $< 0.15$  |  |         | $< 0.15$               |
| 335  | $p\bar{\Lambda}\pi^-$          | $3.2 \pm 0.4$ | <span style="color: blue;"><math>3.30 \pm 0.53 \pm 0.31</math></span> | $3.23_{-0.29}^{+0.33} \pm 0.29$  | $< 13$  | $3.25_{-0.34}^{+0.36}$ |
| 336  | $p\bar{\Sigma}(1385)^-$        | $< 0.26$      |   | $< 0.26$   |         | $< 0.26$               |
| 337  | $\Delta^0\bar{\Lambda}$        | $< 0.93$      |   | $< 0.93$   |         | $< 0.93$               |
| 338  | $p\bar{\Lambda}K^-$            | $< 0.82$      |   | $< 0.82$   |         | $< 0.82$               |
| 339  | $p\bar{\Sigma}^0\pi^-$         | $< 3.8$       |   | $< 3.8$  |         | $< 3.8$                |
| 340  | $\Lambda\bar{\Lambda}$         | $< 0.32$      |   | $< 0.32$   | $< 1.2$ | $< 0.32$               |
| —    | $\Lambda\bar{\Lambda}K^0$      | New           |   | <span style="color: blue;"><math>4.76_{-0.68}^{+0.84} \pm 0.60</math> ‡</span> |         | $4.76_{-0.91}^{+1.03}$ |
| —    | $\Lambda\bar{\Lambda}K^{*0}$   | New           |   | <span style="color: blue;"><math>2.46_{-0.72}^{+0.87} \pm 0.34</math> ‡</span> |         | $2.46_{-0.80}^{+0.93}$ |

† Charmonium decays to  $p\bar{p}$  have been statistically subtracted; ‡ 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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