# BOTTOM, STRANGE MESONS ($B = \pm 1$, $S = \mp 1$)

$B_s^0 = s\overline{b}$, $\overline{B}_s^0 = \overline{s}\,b$, similarly for $B_s^*$'s

## $B_s^0$

$I(J^P) = 0(0^-)$

$I$, $J$, $P$ need confirmation. Quantum numbers shown are quark-model predictions.

Mass $m_{B_s^0} = 5366.89 \pm 0.19$ MeV

$m_{B_s^0} - m_B = 87.42 \pm 0.19$ MeV

Mean life $\tau = (1.505 \pm 0.005) \times 10^{-12}$ s

$c\tau = 451.2\ \mu$m

$\Delta\Gamma_{B_s^0} = \Gamma_{B_{sL}^0} - \Gamma_{B_{sH}^0} = (0.086 \pm 0.006) \times 10^{12}$ s$^{-1}$

### $B_s^0$-$\overline{B}_s^0$ mixing parameters

$\Delta m_{B_s^0} = m_{B_{sH}^0} - m_{B_{sL}^0} = (17.757 \pm 0.021) \times 10^{12}\ \hbar$ s$^{-1}$

$= (1.1688 \pm 0.0014) \times 10^{-8}$ MeV

$x_s = \Delta m_{B_s^0}/\Gamma_{B_s^0} = 26.72 \pm 0.09$

$\chi_s = 0.499304 \pm 0.000005$

### CP violation parameters in $B_s^0$

$\mathrm{Re}(\epsilon_{B_s^0}) / (1 + |\epsilon_{B_s^0}|^2) = (-0.15 \pm 0.70) \times 10^{-3}$

$C_{KK}(B_s^0 \to K^+K^-) = 0.14 \pm 0.11$

$S_{KK}(B_s^0 \to K^+K^-) = 0.30 \pm 0.13$

$\gamma = (65 \pm 7)^\circ$

$\delta_B(B_s^0 \to D_s^\pm K^\mp) = (3 \pm 20)^\circ$

$r_B(B_s^0 \to D_s^\mp K^\pm) = 0.53 \pm 0.17$

$CP$ Violation phase $\beta_s = (1.5 \pm 1.6) \times 10^{-2}$ rad

$|\lambda|\ (B_s^0 \to J/\psi(1S)\phi) = 0.964 \pm 0.020$

$|\lambda| = 1.03^{+0.05}_{-0.04}$

A, $CP$ violation parameter $= 0.5^{+0.8}_{-0.7}$

C, $CP$ violation parameter $= -0.3 \pm 0.4$

S, $CP$ violation parameter $= -0.1 \pm 0.4$

$A_{CP}^L(B_s \to J/\psi\overline{K}^*(892)^0) = -0.05 \pm 0.06$

$A_{CP}^\parallel(B_s \to J/\psi\overline{K}^*(892)^0) = 0.17 \pm 0.15$

$A_{CP}^\perp(B_s \to J/\psi\overline{K}^*(892)^0) = -0.05 \pm 0.10$

$\boldsymbol{A_{CP}(B_s \to \pi^+K^-)} = 0.26 \pm 0.04$

$A_{CP}(B_s^0 \to [K^+K^-]_D \overline{K}^*(892)^0) = -0.04 \pm 0.07$
$A_{CP}(B_s^0 \to [\pi^+K^-]_D K^*(892)^0) = -0.01 \pm 0.04$
$A_{CP}(B_s^0 \to [\pi^+\pi^-]_D K^*(892)^0) = 0.06 \pm 0.13$
$A^{\Delta}(B_s \to \phi\gamma) = -1.0 \pm 0.5$
$\Delta a_\perp < 1.2 \times 10^{-12}$ GeV, CL = 95%
$\Delta a_\parallel = (-0.9 \pm 1.5) \times 10^{-14}$ GeV
$\Delta a_X = (1.0 \pm 2.2) \times 10^{-14}$ GeV
$\Delta a_Y = (-3.8 \pm 2.2) \times 10^{-14}$ GeV
$\mathrm{Re}(\xi) = -0.022 \pm 0.033$
$\mathrm{Im}(\xi) = 0.004 \pm 0.011$

These branching fractions all scale with $B(\overline{b} \to B_s^0)$.

The branching fraction $B(B_s^0 \to D_s^- \ell^+ \nu_\ell \text{anything})$ is not a pure measurement since the measured product branching fraction $B(\overline{b} \to B_s^0) \times B(B_s^0 \to D_s^- \ell^+ \nu_\ell \text{anything})$ was used to determine $B(\overline{b} \to B_s^0)$, as described in the note on "$B^0$-$\overline{B}^0$ Mixing"

For inclusive branching fractions, *e.g.*, $B \to D^{\pm}$ anything, the values usually are multiplicities, not branching fractions. They can be greater than one.

| $B_s^0$ DECAY MODES | | Fraction ($\Gamma_i/\Gamma$) | Scale factor/ Confidence level | $p$ (MeV/$c$) |
|---|---|---|---|---|
| $D_s^-$ anything | | (93 ±25 ) % | | – |
| $\ell\nu_\ell X$ | | ( 9.6 ± 0.8 ) % | | – |
| $e^+\nu X^-$ | | ( 9.1 ± 0.8 ) % | | – |
| $\mu^+\nu X^-$ | | (10.2 ± 1.0 ) % | | – |
| $D_s^-\ell^+\nu_\ell$ anything | [a] | ( 8.1 ± 1.3 ) % | | – |
| $D_s^{*-}\ell^+\nu_\ell$ anything | | ( 5.4 ± 1.1 ) % | | – |
| $D_{s1}(2536)^-\mu^+\nu_\mu$, $D_{s1}^- \to D^{*-}K_S^0$ | | ( 2.6 ± 0.7 ) $\times 10^{-3}$ | | – |
| $D_{s1}(2536)^- X\mu^+\nu$, $D_{s1}^- \to \overline{D}^0 K^+$ | | ( 4.4 ± 1.3 ) $\times 10^{-3}$ | | – |
| $D_{s2}(2573)^- X\mu^+\nu$, $D_{s2}^- \to \overline{D}^0 K^+$ | | ( 2.7 ± 1.0 ) $\times 10^{-3}$ | | – |
| $D_s^-\pi^+$ | | ( 3.00± 0.23) $\times 10^{-3}$ | | 2320 |
| $D_s^-\rho^+$ | | ( 6.9 ± 1.4 ) $\times 10^{-3}$ | | 2249 |
| $D_s^-\pi^+\pi^+\pi^-$ | | ( 6.1 ± 1.0 ) $\times 10^{-3}$ | | 2301 |
| $D_{s1}(2536)^-\pi^+$, $D_{s1}^- \to D_s^-\pi^+\pi^-$ | | ( 2.5 ± 0.8 ) $\times 10^{-5}$ | | – |
| $D_s^{\mp}K^{\pm}$ | | ( 2.27± 0.19) $\times 10^{-4}$ | | 2293 |
| $D_s^-K^+\pi^+\pi^-$ | | ( 3.2 ± 0.6 ) $\times 10^{-4}$ | | 2249 |

| | | | |
|---|---|---|---|
| $D_s^+ D_s^-$ | $(\ 4.4 \pm 0.5\ ) \times 10^{-3}$ | | 1824 |
| $D_s^- D^+$ | $(\ 2.8 \pm 0.5\ ) \times 10^{-4}$ | | 1875 |
| $D^+ D^-$ | $(\ 2.2 \pm 0.6\ ) \times 10^{-4}$ | | 1925 |
| $D^0 \overline{D}^0$ | $(\ 1.9 \pm 0.5\ ) \times 10^{-4}$ | | 1930 |
| $D_s^{*-} \pi^+$ | $(\ 2.0 \pm 0.5\ ) \times 10^{-3}$ | | 2265 |
| $D_s^{*\mp} K^\pm$ | $(\ 1.33 \pm 0.35) \times 10^{-4}$ | | – |
| $D_s^{*-} \rho^+$ | $(\ 9.6 \pm 2.1\ ) \times 10^{-3}$ | | 2191 |
| $D_s^{*+} D_s^- + D_s^{*-} D_s^+$ | $(\ 1.37 \pm 0.16)$ % | | 1742 |
| $D_s^{*+} D_s^{*-}$ | $(\ 1.43 \pm 0.19)$ % | S=1.1 | 1655 |
| $D_s^{(*)+} D_s^{(*)-}$ | $(\ 4.5 \pm 1.4\ )$ % | | – |
| $\overline{D}^{*0} \overline{K}^0$ | $(\ 2.8 \pm 1.1\ ) \times 10^{-4}$ | | 2278 |
| $\overline{D}^0 \overline{K}^0$ | $(\ 4.3 \pm 0.9\ ) \times 10^{-4}$ | | 2330 |
| $\overline{D}^0 K^- \pi^+$ | $(\ 1.04 \pm 0.13) \times 10^{-3}$ | | 2312 |
| $\overline{D}^0 \overline{K}^*(892)^0$ | $(\ 4.4 \pm 0.6\ ) \times 10^{-4}$ | | 2264 |
| $\overline{D}^0 \overline{K}^*(1410)$ | $(\ 3.9 \pm 3.5\ ) \times 10^{-4}$ | | 2114 |
| $\overline{D}^0 \overline{K}_0^*(1430)$ | $(\ 3.0 \pm 0.7\ ) \times 10^{-4}$ | | 2113 |
| $\overline{D}^0 \overline{K}_2^*(1430)$ | $(\ 1.1 \pm 0.4\ ) \times 10^{-4}$ | | 2113 |
| $\overline{D}^0 \overline{K}^*(1680)$ | $< 7.8 \times 10^{-5}$ | CL=90% | 1997 |
| $\overline{D}^0 \overline{K}_0^*(1950)$ | $< 1.1 \times 10^{-4}$ | CL=90% | 1890 |
| $\overline{D}^0 \overline{K}_3^*(1780)$ | $< 2.6 \times 10^{-5}$ | CL=90% | 1971 |
| $\overline{D}^0 \overline{K}_4^*(2045)$ | $< 3.1 \times 10^{-5}$ | CL=90% | 1837 |
| $\overline{D}^0 K^- \pi^+$ (non-resonant) | $(\ 2.1 \pm 0.8\ ) \times 10^{-4}$ | | 2312 |
| $D_{s2}^*(2573)^- \pi^+$, $D_{s2}^* \to \overline{D}^0 K^-$ | $(\ 2.6 \pm 0.4\ ) \times 10^{-4}$ | | – |
| $D_{s1}^*(2700)^- \pi^+$, $D_{s1}^* \to \overline{D}^0 K^-$ | $(\ 1.6 \pm 0.8\ ) \times 10^{-5}$ | | – |
| $D_{s1}^*(2860)^- \pi^+$, $D_{s1}^* \to \overline{D}^0 K^-$ | $(\ 5 \pm 4\ ) \times 10^{-5}$ | | – |
| $D_{s3}^*(2860)^- \pi^+$, $D_{s3}^* \to \overline{D}^0 K^-$ | $(\ 2.2 \pm 0.6\ ) \times 10^{-5}$ | | – |
| $\overline{D}^0 K^+ K^-$ | $(\ 4.4 \pm 2.0\ ) \times 10^{-5}$ | | 2243 |
| $\overline{D}^0 f_0(980)$ | $< 3.1 \times 10^{-6}$ | CL=90% | 2242 |
| $\overline{D}^0 \phi$ | $(\ 3.0 \pm 0.8\ ) \times 10^{-5}$ | | 2235 |
| $D^{*\mp} \pi^\pm$ | $< 6.1 \times 10^{-6}$ | CL=90% | – |
| $J/\psi(1S) \phi$ | $(\ 1.08 \pm 0.08) \times 10^{-3}$ | | 1588 |
| $J/\psi(1S) \phi \phi$ | $(\ 1.25^{+\ 0.17}_{-\ 0.19}) \times 10^{-5}$ | | 764 |
| $J/\psi(1S) \pi^0$ | $< 1.2 \times 10^{-3}$ | CL=90% | 1787 |
| $J/\psi(1S) \eta$ | $(\ 4.0 \pm 0.7\ ) \times 10^{-4}$ | S=1.4 | 1733 |
| $J/\psi(1S) K_S^0$ | $(\ 1.88 \pm 0.15) \times 10^{-5}$ | | 1743 |
| $J/\psi(1S) \overline{K}^*(892)^0$ | $(\ 4.1 \pm 0.4\ ) \times 10^{-5}$ | | 1637 |

| | | | |
|---|---|---|---|
| $J/\psi(1S)\eta'$ | $(\ 3.3 \pm 0.4\ ) \times 10^{-4}$ | | 1612 |
| $J/\psi(1S)\pi^+\pi^-$ | $(\ 2.14 \pm 0.18) \times 10^{-4}$ | | 1775 |
| $J/\psi(1S)f_0(500),\ f_0 \to \pi^+\pi^-$ | $< 1.7 \times 10^{-6}$ | CL=90% | – |
| $J/\psi(1S)\rho,\ \rho \to \pi^+\pi^-$ | $< 1.2 \times 10^{-6}$ | CL=90% | – |
| $J/\psi(1S)f_0(980),\ f_0 \to \pi^+\pi^-$ | $(\ 1.19 \pm 0.22) \times 10^{-4}$ | S=2.0 | – |
| $J/\psi(1S)f_0(980)_0,\ f_0 \to \pi^+\pi^-$ | $(\ 5.1 \pm 0.9\ ) \times 10^{-5}$ | | – |
| $J/\psi(1S)f_2(1270),\ f_2 \to \pi^+\pi^-$ | $(\ 1.1 \pm 0.4\ ) \times 10^{-6}$ | | – |
| $J/\psi(1S)f_2(1270)_0,\ f_2 \to \pi^+\pi^-$ | $(\ 2.6 \pm 0.7\ ) \times 10^{-7}$ | | – |
| $J/\psi(1S)f_2(1270)_\parallel,\ f_2 \to \pi^+\pi^-$ | $(\ 3.8 \pm 1.3\ ) \times 10^{-7}$ | | – |
| $J/\psi(1S)f_2(1270)_\perp,\ f_2 \to \pi^+\pi^-$ | $(\ 4.6 \pm 2.8\ ) \times 10^{-7}$ | | – |
| $J/\psi(1S)f_0(1370),\ f_0 \to \pi^+\pi^-$ | $(\ 4.5\ ^{+\ 0.7}_{-\ 4.0}\ ) \times 10^{-5}$ | | – |
| $J/\psi(1S)f_0(1500),\ f_0 \to \pi^+\pi^-$ | $(\ 7.4\ ^{+\ 1.6}_{-\ 1.4}\ ) \times 10^{-6}$ | | – |
| $J/\psi(1S)f_2'(1525)_0,\ f_2' \to \pi^+\pi^-$ | $(\ 3.7 \pm 1.0\ ) \times 10^{-7}$ | | – |
| $J/\psi(1S)f_2'(1525)_\parallel,\ f_2' \to \pi^+\pi^-$ | $(\ 4.4\ ^{+10.0}_{-\ 3.1}\ ) \times 10^{-8}$ | | – |
| $J/\psi(1S)f_2'(1525)_\perp,\ f_2' \to \pi^+\pi^-$ | $(\ 1.9 \pm 1.4\ ) \times 10^{-7}$ | | – |
| $J/\psi(1S)f_0(1790),\ f_0 \to \pi^+\pi^-$ | $(\ 1.7\ ^{+\ 4.0}_{-\ 0.4}\ ) \times 10^{-6}$ | | – |
| $J/\psi(1S)\pi^+\pi^-$ (nonresonant) | $(\ 1.8\ ^{+\ 1.1}_{-\ 0.4}\ ) \times 10^{-5}$ | | 1775 |
| $J/\psi(1S)\overline{K}^0\pi^+\pi^-$ | $< 4.4 \times 10^{-5}$ | CL=90% | 1675 |
| $J/\psi(1S)K^+K^-$ | $(\ 7.9 \pm 0.7\ ) \times 10^{-4}$ | | 1601 |
| $J/\psi(1S)K^0K^-\pi^+ + \text{c.c.}$ | $(\ 9.3 \pm 1.3\ ) \times 10^{-4}$ | | 1538 |
| $J/\psi(1S)\overline{K}^0K^+K^-$ | $< 1.2 \times 10^{-5}$ | CL=90% | 1333 |
| $J/\psi(1S)f_2'(1525)$ | $(\ 2.6 \pm 0.6\ ) \times 10^{-4}$ | | 1304 |
| $J/\psi(1S)p\overline{p}$ | $< 4.8 \times 10^{-6}$ | CL=90% | 982 |
| $J/\psi(1S)\gamma$ | $< 7.3 \times 10^{-6}$ | CL=90% | 1790 |
| $J/\psi(1S)\pi^+\pi^-\pi^+\pi^-$ | $(\ 8.0 \pm 0.9\ ) \times 10^{-5}$ | | 1731 |
| $J/\psi(1S)f_1(1285)$ | $(\ 7.0 \pm 1.4\ ) \times 10^{-5}$ | | 1460 |
| $\psi(2S)\eta$ | $(\ 3.3 \pm 0.9\ ) \times 10^{-4}$ | | 1338 |

| | | | | | |
|---|---|---|---|---|---|
| $\psi(2S)\eta'$ | | $(\ 1.29\pm\ 0.35)\times10^{-4}$ | | | 1158 |
| $\psi(2S)\pi^+\pi^-$ | | $(\ 7.3\ \pm\ 1.2\ )\times10^{-5}$ | | | 1397 |
| $\psi(2S)\phi$ | | $(\ 5.4\ \pm\ 0.6\ )\times10^{-4}$ | | | 1120 |
| $\psi(2S)K^-\pi^+$ | | $(\ 3.12\pm\ 0.30)\times10^{-5}$ | | | 1310 |
| $\psi(2S)\overline{K}^*(892)^0$ | | $(\ 3.3\ \pm\ 0.5\ )\times10^{-5}$ | | | 1196 |
| $\chi_{c1}\phi$ | | $(\ 2.05\pm\ 0.30)\times10^{-4}$ | | | 1274 |
| $\pi^+\pi^-$ | | $(\ 6.8\ \pm\ 0.8\ )\times10^{-7}$ | | | 2680 |
| $\pi^0\pi^0$ | | $<\ 2.1$ | $\times10^{-4}$ | CL=90% | 2680 |
| $\eta\pi^0$ | | $<\ 1.0$ | $\times10^{-3}$ | CL=90% | 2654 |
| $\eta\eta$ | | $<\ 1.5$ | $\times10^{-3}$ | CL=90% | 2627 |
| $\rho^0\rho^0$ | | $<\ 3.20$ | $\times10^{-4}$ | CL=90% | 2569 |
| $\eta'\eta'$ | | $(\ 3.3\ \pm\ 0.7\ )\times10^{-5}$ | | | 2507 |
| $\phi f_0(980),\ f_0(980)\to\pi^+\pi^-$ | | $(\ 1.12\pm\ 0.21)\times10^{-6}$ | | | – |
| $\phi f_2(1270),\ f_2(1270)\to\pi^+\pi^-$ | | $(\ 6.1\ ^{+\ 1.8}_{-\ 1.5}\ )\times10^{-7}$ | | | – |
| $\phi\rho^0$ | | $(\ 2.7\ \pm\ 0.8\ )\times10^{-7}$ | | | 2526 |
| $\phi\pi^+\pi^-$ | | $(\ 3.5\ \pm\ 0.5\ )\times10^{-6}$ | | | 2579 |
| $\phi\phi$ | | $(\ 1.87\pm\ 0.15)\times10^{-5}$ | | | 2482 |
| $\pi^+K^-$ | | $(\ 5.6\ \pm\ 0.6\ )\times10^{-6}$ | | | 2659 |
| $K^+K^-$ | | $(\ 2.54\pm\ 0.16)\times10^{-5}$ | | | 2638 |
| $K^0\overline{K}^0$ | | $(\ 2.0\ \pm\ 0.6\ )\times10^{-5}$ | | | 2637 |
| $K^0\pi^+\pi^-$ | | $(\ 1.5\ \pm\ 0.4\ )\times10^{-5}$ | | | 2653 |
| $K^0K^\pm\pi^\mp$ | | $(\ 7.7\ \pm\ 1.0\ )\times10^{-5}$ | | | 2622 |
| $K^*(892)^-\pi^+$ | | $(\ 3.3\ \pm\ 1.2\ )\times10^{-6}$ | | | 2607 |
| $K^*(892)^\pm K^\mp$ | | $(\ 1.25\pm\ 0.26)\times10^{-5}$ | | | 2585 |
| $K^0_S\overline{K}^*(892)^0+$ c.c. | | $(\ 1.6\ \pm\ 0.4\ )\times10^{-5}$ | | | 2585 |
| $K^0K^+K^-$ | | $<\ 3.5$ | $\times10^{-6}$ | CL=90% | 2568 |
| $\overline{K}^*(892)^0\rho^0$ | | $<\ 7.67$ | $\times10^{-4}$ | CL=90% | 2550 |
| $\overline{K}^*(892)^0K^*(892)^0$ | | $(\ 1.11\pm\ 0.27)\times10^{-5}$ | | | 2531 |
| $\phi K^*(892)^0$ | | $(\ 1.14\pm\ 0.30)\times10^{-6}$ | | | 2507 |
| $p\overline{p}$ | | $(\ 2.8\ ^{+\ 2.2}_{-\ 1.7}\ )\times10^{-8}$ | | | 2514 |
| $\Lambda_c^-\Lambda\pi^+$ | | $(\ 3.6\ \pm\ 1.6\ )\times10^{-4}$ | | | – |
| $\Lambda_c^-\Lambda_c^+$ | | $<\ 8.0$ | $\times10^{-5}$ | CL=95% | – |
| $\gamma\gamma$ | *B1* | $<\ 3.1$ | $\times10^{-6}$ | CL=90% | 2683 |
| $\phi\gamma$ | | $(\ 3.52\pm\ 0.34)\times10^{-5}$ | | | 2587 |

## Lepton Family number (*LF*) violating modes or $\Delta B = 1$ weak neutral current (*B1*) modes

| | | | | | |
|---|---|---|---|---|---|
| $\mu^+\mu^-$ | *B1* | $(\ 2.4\ ^{+\ 0.9}_{-\ 0.7}\ )\times10^{-9}$ | | S=1.5 | 2681 |
| $e^+e^-$ | *B1* | $<\ 2.8$ | $\times10^{-7}$ | CL=90% | 2683 |
| $\mu^+\mu^-\mu^+\mu^-$ | *B1* | $<\ 1.2$ | $\times10^{-8}$ | CL=90% | 2673 |

| | | | | | |
|---|---|---|---|---|---|
| $SP,\ S \to\ \mu^+\mu^-,$ $P \to\ \mu^+\mu^-$ | *B1* | [*b*] < 1.2 | $\times 10^{-8}$ | CL=90% | – |
| $\phi(1020)\mu^+\mu^-$ | *B1* | ( 8.3 ± 1.2 ) | $\times 10^{-7}$ | | 2582 |
| $\pi^+\pi^-\mu^+\mu^-$ | *B1* | ( 8.4 ± 1.7 ) | $\times 10^{-8}$ | | 2670 |
| $\phi\nu\overline{\nu}$ | *B1* | < 5.4 | $\times 10^{-3}$ | CL=90% | 2587 |
| $e^\pm\mu^\mp$ | *LF* | [*c*] < 1.1 | $\times 10^{-8}$ | CL=90% | 2682 |

## $B_s^*$

$I(J^P) = 0(1^-)$

*I*, *J*, *P* need confirmation. Quantum numbers shown are quark-model predictions.

Mass $m = 5415.4^{+1.8}_{-1.5}$ MeV (S = 2.9)

$m_{B_s^*} - m_{B_s} = 48.5^{+1.8}_{-1.5}$ MeV (S = 2.8)

| $B_s^*$ DECAY MODES | Fraction ($\Gamma_i/\Gamma$) | *p* (MeV/*c*) |
|---|---|---|
| $B_s\gamma$ | dominant | 48 |

## $B_{s1}(5830)^0$

$I(J^P) = 0(1^+)$

*I*, *J*, *P* need confirmation.

Mass $m = 5828.63 \pm 0.27$ MeV

$m_{B_{s1}^0} - m_{B^{*+}} = 503.98 \pm 0.18$ MeV

Full width $\Gamma = 0.5 \pm 0.4$ MeV

| $B_{s1}(5830)^0$ DECAY MODES | Fraction ($\Gamma_i/\Gamma$) | *p* (MeV/*c*) |
|---|---|---|
| $B^{*+}K^-$ | dominant | 97 |

## $B_{s2}^*(5840)^0$

$I(J^P) = 0(2^+)$

*I*, *J*, *P* need confirmation.

Mass $m = 5839.85 \pm 0.17$ MeV (S = 1.1)

$m_{B_{s2}^{*0}} - m_{B^+} = 560.53 \pm 0.17$ MeV (S = 1.1)

Full width $\Gamma = 1.47 \pm 0.33$ MeV

| $B_{s2}^*(5840)^0$ DECAY MODES | Fraction ($\Gamma_i/\Gamma$) | *p* (MeV/*c*) |
|---|---|---|
| $B^+K^-$ | dominant | 252 |

## NOTES

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

[*b*] Here $S$ and $P$ are the hypothetical scalar and pseudoscalar particles with masses of 2.5 GeV/$c^2$ and 214.3 MeV/$c^2$, respectively.

[*c*] The value is for the sum of the charge states or particle/antiparticle states indicated.