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

$I(J^P) = 0(1^+)$   Status:   $\ast\ast\ast$
$I$,  $J$,  $P$  need  confirmation.

Quantum numbers shown are quark-model predictions.

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

| VALUE (MeV) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| **5828.63±0.27 OUR FIT** | | | | |
| **5828.40±0.04±0.41** | [1] AAIJ | 13O | LHCB | $pp$ at 7 TeV |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 5829.4 ±0.7 | [2] AALTONEN | 08K | CDF | Repl. by AALTONEN 14I |

[1] Uses $B_{s1}(5830)^0 \to B^{*+}K^-$ decay.

[2] Uses two-body decays into $K^-$ and $B^+$ mesons reconstructed as $B^+ \to J/\psi K^+$, $J/\psi \to \mu^+\mu^-$ or $B^+ \to \overline{D}^0\pi^+$, $\overline{D}^0 \to K^+\pi^-$.

## $m_{B_{s1}^0} - m_{B^{*+}}$

| VALUE (MeV) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| **503.98±0.18 OUR FIT** | | | | |
| **504.03±0.12±0.15** | [3] AALTONEN | 14I | CDF | $p\overline{p}$ at 1.96 TeV |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 504.41±0.21±0.14 | [4] AALTONEN | 08K | CDF | Repl. by AALTONEN 14I |

[3] AALTONEN 14I reports $m_{B_{s1}(5830)^0} - m_{B^{*+}} - m_{K^-} = 10.35 \pm 0.12 \pm 0.15$ MeV which we adjusted by the $K^-$ mass.

[4] Uses two-body decays into $K^-$ and $B^+$ mesons reconstructed as $B^+ \to J/\psi K^+$, $J/\psi \to \mu^+\mu^-$ or $B^+ \to \overline{D}^0\pi^+$, $\overline{D}^0 \to K^+\pi^-$.

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

| VALUE (MeV) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| **0.5±0.3±0.3** | AALTONEN | 14I | CDF | $p\overline{p}$ at 1.96 TeV |

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

| | Mode | Fraction ($\Gamma_i/\Gamma$) |
|---|---|---|
| $\Gamma_1$ | $B^{*+}K^-$ | dominant |

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

$\Gamma(B^{*+}K^-)/\Gamma_{total}$ <div align="right">$\Gamma_1/\Gamma$</div>

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| **dominant** | AALTONEN | 08K | CDF | $p\overline{p}$ at 1.96 TeV |

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

| AALTONEN | 14I | PR D90 012013 | T. Aaltonen *et al.* | (CDF Collab.) |
| AAIJ | 13O | PRL 110 151803 | R. Aaij *et al.* | (LHCb Collab.) |
| AALTONEN | 08K | PRL 100 082001 | T. Aaltonen *et al.* | (CDF Collab.) |