

**$B_{s2}^*(5840)^0$**  $I(J^P) = 0(2^+)$  Status: \*\*\*  
 $I, J, P$  need confirmation.

Quantum numbers shown are quark-model predictions.

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

| VALUE (MeV)  | DOCUMENT ID           | TECN    | COMMENT                   |
|--|-----------------------|---------|---------------------------|
| <b>5839.7 ± 0.6 OUR AVERAGE</b>  |                       |         |                           |
| 5839.7 ± 0.7   | <sup>1</sup> AALTONEN | 08K CDF | $\rho\bar{p}$ at 1.96 TeV |
| 5839.6 ± 1.1 ± 0.7   | <sup>2</sup> ABAZOV   | 08E D0  | $\rho\bar{p}$ at 1.96 TeV |
| <sup>1</sup> Uses two-body decays into $K^-$ and $B^+$ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$ , $J/\psi \rightarrow \mu^+\mu^-$ or $B^+ \rightarrow \bar{D}^0\pi^+$ , $\bar{D}^0 \rightarrow K^+\pi^-$ . |                       |         |                           |
| <sup>2</sup> Observed in $B_{s2}^{*0} \rightarrow B^+ K^-$ . Measured production rate of $B_{s2}^{*0}$ relative to $B^+$ to be $(1.15 \pm 0.23 \pm 0.13)\%$ .  |                       |         |                           |

 **$m_{B_{s2}^{*0}} - m_{B_{s1}^0}$** 

| VALUE (MeV)  | DOCUMENT ID           | TECN    | COMMENT                   |
|--|-----------------------|---------|---------------------------|
| <b>10.5 ± 0.6</b>  | <sup>3</sup> AALTONEN | 08K CDF | $\rho\bar{p}$ at 1.96 TeV |
| <sup>3</sup> Uses two-body decays into $K^-$ and $B^+$ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$ , $J/\psi \rightarrow \mu^+\mu^-$ or $B^+ \rightarrow \bar{D}^0\pi^+$ , $\bar{D}^0 \rightarrow K^+\pi^-$ . |                       |         |                           |

 **$B_{s2}^*(5840)^0$  DECAY MODES**

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

 **$B_{s2}^*(5840)^0$  BRANCHING RATIOS**

| $\Gamma(B^+ K^-)/\Gamma_{\text{total}}$   | VALUE | DOCUMENT ID         | TECN    | COMMENT                   | $\Gamma_1/\Gamma$ |
|---|-------|---------------------|---------|---------------------------|-------------------|
| dominant  |       | AALTONEN            | 08K CDF | $\rho\bar{p}$ at 1.96 TeV |                   |
| dominant  |       | <sup>4</sup> ABAZOV | 08E D0  | $\rho\bar{p}$ at 1.96 TeV |                   |
| <sup>4</sup> Measured production rate of $B_{s2}^{*0}$ relative to $B^+$ to be $(1.15 \pm 0.23 \pm 0.13)\%$ . |       |                     |         |                           |                   |

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

|          |     |                |                           |               |
|----------|-----|----------------|---------------------------|---------------|
| AALTONEN | 08K | PRL 100 082001 | T. Aaltonen <i>et al.</i> | (CDF Collab.) |
| ABAZOV   | 08E | PRL 100 082002 | V.M. Abazov <i>et al.</i> | (D0 Collab.)  |