

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

$I(J^P) = \frac{1}{2}(2^+)$  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

$\Gamma(B^+ K^-)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	$\Gamma_1/\Gamma$
<b>dominant</b>	AALTONEN	08K CDF	$\rho\bar{p}$ at 1.96 TeV	
<b>dominant</b>	<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.)