

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

$I(J^P) = 0(2^+)$ Status: ***
 I, J, P need confirmation.

Quantum numbers shown are quark-model predictions.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5839.96 ± 0.20 OUR AVERAGE			
5839.99 ± 0.05 ± 0.20	AAIJ	130	LHCB pp at 7 TeV
5839.7 ± 0.7	¹ AALTONEN	08K	CDF $p\bar{p}$ at 1.96 TeV
5839.6 ± 1.1 ± 0.7	² ABAZOV	08E D0	$p\bar{p}$ at 1.96 TeV

¹ Uses two-body decays into K^- and B^+ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$, $J/\psi \rightarrow \mu^+ \mu^-$ or $B^+ \rightarrow \bar{D}^0 \pi^+$, $\bar{D}^0 \rightarrow K^+ \pi^-$.

² 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
10.5 ± 0.6	³ AALTONEN	08K CDF	$p\bar{p}$ at 1.96 TeV

³ Uses two-body decays into K^- and B^+ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$, $J/\psi \rightarrow \mu^+ \mu^-$ or $B^+ \rightarrow \bar{D}^0 \pi^+$, $\bar{D}^0 \rightarrow K^+ \pi^-$.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
1.56 ± 0.13 ± 0.47	⁴ AAIJ	130	LHCB pp at 7 TeV

⁴ Uses $B_{s2}^*(5840)^0 \rightarrow B^{*+} K^-$ decays.

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

Mode	Fraction (Γ_i/Γ)
Γ_1 $B^+ K^-$	dominant
Γ_2 $B^{*+} K^-$	

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

$\Gamma(B^+ K^-)/\Gamma_{\text{total}}$				Γ_1/Γ
VALUE	DOCUMENT ID	TECN	COMMENT	
dominant	AALTONEN	08K CDF	$p\bar{p}$ at 1.96 TeV	
dominant	⁵ ABAZOV	08E D0	$p\bar{p}$ at 1.96 TeV	

⁵ Measured production rate of B_{s2}^{*0} relative to B^+ to be $(1.15 \pm 0.23 \pm 0.13)\%$.

$\Gamma(B^{*+} K^-)/\Gamma(B^+ K^-)$

Γ_2/Γ_1

VALUE

DOCUMENT ID

TECN

COMMENT

0.093±0.013±0.012

AAIJ

130

LHCB

pp at 7 TeV

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

AAIJ	130	PRL 110 151803	R. Aaij <i>et al.</i>	(LHCb Collab.)
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.)