

$B_{s1}(5830)^0$

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

Quantum numbers shown are quark-model predictions.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5828.78 ± 0.35 OUR FIT	Error includes scale factor of 1.2.		
5828.40 ± 0.04 ± 0.41	¹ AAIJ	130	LHCB $p\bar{p}$ 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 14l
¹ Uses $B_{s1}(5830)^0 \rightarrow B^{*+} K^-$ decay.			
² Uses two-body decays into K^- and B^+ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$, $J/\psi \rightarrow \mu^+ \mu^-$ or $B^+ \rightarrow \bar{D}^0 \pi^+$, $\bar{D}^0 \rightarrow K^+ \pi^-$.			

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
503.95 ± 0.23 OUR FIT	Error includes scale factor of 1.3.		
504.03 ± 0.12 ± 0.15	³ AALTONEN	14l	CDF $p\bar{p}$ 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 14l
³ AALTONEN 14l 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 $B^+ \rightarrow J/\psi K^+$, $J/\psi \rightarrow \mu^+ \mu^-$ or $B^+ \rightarrow \bar{D}^0 \pi^+$, $\bar{D}^0 \rightarrow K^+ \pi^-$.			

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
0.5 ± 0.3 ± 0.3	AALTONEN	14l	CDF $p\bar{p}$ at 1.96 TeV

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

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

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

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

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

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