

$B_{s1}(5830)^0$

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

Quantum numbers shown are quark-model predictions.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5828.73±0.20 OUR FIT			
5828.65±0.24 OUR AVERAGE			
5828.78±0.09±0.29	SIRUNYAN	18DF CMS	$p\bar{p}$ at 8 TeV
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
503.98±0.17 OUR FIT			
504.03±0.12±0.15	¹ 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	² AALTONEN	08k CDF	Repl. by AALTONEN 14l
¹ 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.			
² Uses two-body decays into K^- and B^+ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$, $J/\psi \rightarrow \mu^+ \mu^-$ or $B^+ \rightarrow \bar{D}^0 \pi^+$, $\bar{D}^0 \rightarrow K^+ \pi^-$.			

$B_{s1}(5830)^0$ 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)
$\Gamma_1 \quad B^{*+} K^-$	seen
$\Gamma_2 \quad B^{*0} K_S^0$	

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

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

$\Gamma(B^{*0} K_S^0)/\Gamma(B^{*+} K^-)$	Γ_2/Γ_1		
VALUE	DOCUMENT ID	TECN	COMMENT
$0.49 \pm 0.12 \pm 0.07$	¹ SIRUNYAN	18DF CMS	pp at 8 TeV
¹ With the branching fractions $B(B^+ \rightarrow J/\psi K^+) = (1.026 \pm 0.031) \times 10^{-3}$ and $B(B^0 \rightarrow J/\psi K^{*0}) = (1.28 \pm 0.05) \times 10^{-3}$.			

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

SIRUNYAN	18DF EPJ C78 939	A.M. Sirunyan <i>et al.</i>	(CMS Collab.)
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.)