

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

$$I(J^P) = 0(1^+)$$

$I, J, P$  need confirmation.

Quantum numbers shown are quark-model predictions.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>5828.70 ± 0.20 OUR FIT</b>			
<b>5828.65 ± 0.24 OUR AVERAGE</b>			
5828.78 ± 0.09 ± 0.29	SIRUNYAN	18DF CMS	$pp$ at 8 TeV
5828.40 ± 0.04 ± 0.41	<sup>1</sup> AAIJ	130 LHCb	$pp$ at 7 TeV
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
5829.4 ± 0.7	<sup>2</sup> AALTONEN	08k CDF	Repl. by AALTONEN 14i
<sup>1</sup> Uses $B_{s1}(5830)^0 \rightarrow B^{*+} K^-$ decay.			
<sup>2</sup> Uses two-body decays into $K^-$ and $B^+$ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$ , $J/\psi \rightarrow \mu^+ \mu^-$ or $B^+ \rightarrow \bar{D}^0 \pi^+$ , $\bar{D}^0 \rightarrow K^+ \pi^-$ .			

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>504.00 ± 0.17 OUR FIT</b>			
<b>504.03 ± 0.12 ± 0.15</b>	<sup>1</sup> AALTONEN	14i 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	<sup>2</sup> AALTONEN	08k CDF	Repl. by AALTONEN 14i
<sup>1</sup> AALTONEN 14i 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.			
<sup>2</sup> Uses two-body decays into $K^-$ and $B^+$ mesons reconstructed as $B^+ \rightarrow J/\psi K^+$ , $J/\psi \rightarrow \mu^+ \mu^-$ or $B^+ \rightarrow \bar{D}^0 \pi^+$ , $\bar{D}^0 \rightarrow K^+ \pi^-$ .			

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>0.5 ± 0.3 ± 0.3</b>	AALTONEN	14i CDF	$p\bar{p}$ at 1.96 TeV

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

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $B^{*+} K^-$	seen
$\Gamma_2$ $B^{*0} K_S^0$	

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

$\Gamma(B^{*+} K^-)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
seen	AALTONEN	08k CDF	$p\bar{p}$ at 1.96 TeV

$$\Gamma(B^{*0} K_S^0)/\Gamma(B^{*+} K^-)$$

$$\Gamma_2/\Gamma_1$$

<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>0.49±0.12±0.07</b>	<sup>1</sup> SIRUNYAN	18DF CMS	<i>pp</i> at 8 TeV

<sup>1</sup> 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.)