

$\Xi'_b(5935)^-$

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

Status: ***

 $\Xi'_b(5935)^-$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5935.1 ± 0.5 OUR AVERAGE			
5935.09 ± 0.01 ± 0.49	1,2 AAIJ	23AU LHCB	pp at 7, 8, 13 TeV
5935.08 ± 0.02 ± 0.49	1,3 AAIJ	15H LHCB	pp at 7, 8 TeV

¹ Observed in $\Xi_b^0 \pi^-$ channel with $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$ and $\Xi_c^+ \rightarrow p K^- \pi^+$.

² AAIJ 23AU measures $m(\Xi'_b(5935)^-) - m(\Xi_b^0) - m(\pi^-) = 3.66 \pm 0.01 \pm 0.00$ MeV.

We have adjusted the measurement to our best values of $m(\Xi_b^0) = 5791.9 \pm 0.5$ MeV, $m(\pi^-) = 139.57039 \pm 0.00018$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.

³ AAIJ 15H measures $m(\Xi'_b(5935)^-) - m(\Xi_b^0) - m(\pi^-) = 3.653 \pm 0.018 \pm 0.006$ MeV.

We have adjusted the measurement to our best values of $m(\Xi_b^0) = 5791.9 \pm 0.5$ MeV, $m(\pi^-) = 139.57039 \pm 0.00018$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.

 $\Xi'_b(5935)^-$ WIDTH

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
0.03 ± 0.01 ± 0.03		1 AAIJ	23AU LHCB	pp at 7, 8, 13 TeV
<0.08	95	1 AAIJ	15H LHCB	pp at 7, 8 TeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

¹ Observed in $\Xi_b^0 \pi^-$ channel with $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$ and $\Xi_c^+ \rightarrow p K^- \pi^+$.

 $\Xi'_b(5935)^-$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Xi_b^0 \pi^- \times B(\bar{b} \rightarrow \Xi'_b(5935)^-)/B(\bar{b} \rightarrow \Xi_b^0)$	(11.8 ± 1.8) %

 $\Xi'_b(5935)^-$ BRANCHING RATIOS

$\Gamma(\Xi_b^0 \pi^- \times B(\bar{b} \rightarrow \Xi'_b(5935)^-)/B(\bar{b} \rightarrow \Xi_b^0))/\Gamma_{\text{total}}$	Γ_1/Γ		
VALUE	DOCUMENT ID	TECN	COMMENT
0.118 ± 0.017 ± 0.007	1 AAIJ	15H LHCB	pp at 7, 8 TeV

¹ Observed in $\Xi_b^0 \pi^-$ channel with $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$ and $\Xi_c^+ \rightarrow p K^- \pi^+$.

 $\Xi'_b(5935)^-$ REFERENCES

AAIJ	23AU PRL 131 171901	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	15H PRL 114 062004	R. Aaij <i>et al.</i>	(LHCb Collab.)