

$\Xi'_b(5935)^-$

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

Status: ***

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5935.02 ± 0.02 ± 0.05	¹ AAIJ	15H LHCb	pp at 7, 8 TeV

¹ Not independent of the mass difference measurement below. Observed in $\Xi_b^0 \pi^-$ channel with $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$ and $\Xi_c^+ \rightarrow p K^- \pi^+$.

$$m_{\Xi'_b(5935)^-} - m_{\Xi_b^0} - m_{\pi^-}$$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
3.653 ± 0.018 ± 0.006	² AAIJ	15H LHCb	pp at 7, 8 TeV

² Observed in $\Xi_b^0 \pi^-$ channel with $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$ and $\Xi_c^+ \rightarrow p K^- \pi^+$.

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

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
<0.08	95	³ AAIJ	15H LHCb	pp at 7, 8 TeV

³ 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	⁴ AAIJ	15H LHCb	pp at 7, 8 TeV

⁴ 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 15H PRL 114 062004 R. Aaij *et al.* (LHCb Collab.)