

$\Xi_b^*(5955)^-$

$J^P = \frac{3}{2}^+$

Status: ***

 $\Xi_b^*(5955)^-$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
5955.33 ± 0.12 ± 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 $\Xi_c^+ \rightarrow p K^- \pi^+$.

$m_{\Xi_b^*(5955)^-} - m_{\Xi_b^0} - m_{\pi^-}$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
23.96 ± 0.12 ± 0.06	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 $\Xi_c^+ \rightarrow p K^- \pi^+$.

 $\Xi_b^*(5955)^-$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
1.65 ± 0.31 ± 0.10	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 $\Xi_c^+ \rightarrow p K^- \pi^+$.

 $\Xi_b^*(5955)^-$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Xi_b^0 \pi^- \times B(\bar{b} \rightarrow \Xi_b^*(5955)^-)/B(\bar{b} \rightarrow \Xi_b^0)$	(20.7 ± 3.5) %

 $\Xi_b^*(5955)^-$ BRANCHING RATIOS

$$\Gamma(\Xi_b^0 \pi^- \times B(\bar{b} \rightarrow \Xi_b^*(5955)^-)/B(\bar{b} \rightarrow \Xi_b^0))/\Gamma_{\text{total}} \quad \Gamma_1/\Gamma$$

VALUE	DOCUMENT ID	TECN	COMMENT
0.207 ± 0.032 ± 0.015	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 $\Xi_c^+ \rightarrow p K^- \pi^+$.

 $\Xi_b^*(5955)^-$ REFERENCESAAIJ 15H PRL 114 062004 R. Aaij *et al.* (LHCb Collab.)