

$\Xi_b(6227)$ $J^P = ??$

Status: ***

 $\Xi_b(6227)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
6226.9 ± 2.0 ± 0.4	1,2 AAIJ	18H LHCB	pp at 7, 8, 13 TeV
¹ Uses $\Lambda_b^0 K^-$ and $\Xi_b^0 \pi^-$ modes.			
² Measures mass difference $m(\Xi_b(6227)^-) - m(\Lambda_b^0) = 607.3 \pm 2.0 \pm 0.3$ MeV and uses $m(\Lambda_b^0) = 5619.58 \pm 0.17$ MeV.			

 $\Xi_b(6227)$ WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
18.1 ± 5.4 ± 1.8	¹ AAIJ	18H LHCB	pp at 7, 8, 13 TeV
¹ Uses $\Lambda_b^0 K^-$ and $\Xi_b^0 \pi^-$ modes.			

 $\Xi_b(6227)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)	Scale factor
Γ_1 $\Lambda_b^0 K^- \times B(b \rightarrow \Xi_b(6227))/B(b \rightarrow \Lambda_b^0)$	$(3.20 \pm 0.35) \times 10^{-3}$	
Γ_2 $\Xi_b^0 \pi^- \times B(b \rightarrow \Xi_b(6227))/B(b \rightarrow \Xi_b^0)$	$(2.8 \pm 1.1) \%$	1.8

 $\Xi_b(6227)$ BRANCHING RATIOS

$\Gamma(\Lambda_b^0 K^- \times B(b \rightarrow \Xi_b(6227))/B(b \rightarrow \Lambda_b^0))/\Gamma_{\text{total}}$			Γ_1/Γ
VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
3.20 ± 0.35 OUR AVERAGE			
3.0 ± 0.3 ± 0.4	AAIJ	18H LHCB	pp at 7, 8 TeV
3.4 ± 0.3 ± 0.4	AAIJ	18H LHCB	pp at 13 TeV
$\Gamma(\Xi_b^0 \pi^- \times B(b \rightarrow \Xi_b(6227))/B(b \rightarrow \Xi_b^0))/\Gamma_{\text{total}}$			Γ_2/Γ
VALUE (units 10^{-3})	DOCUMENT ID	TECN	COMMENT
28 ± 11 OUR AVERAGE			Error includes scale factor of 1.8.
47 ± 10 ± 7	AAIJ	18H LHCB	pp at 7, 8 TeV
22 ± 6 ± 3	AAIJ	18H LHCB	pp at 13 TeV

 $\Xi_b(6227)$ REFERENCES

AAIJ 18H PRL 121 072002 R. Aaij et al. (LHCb Collab.)