$\boxed{\Xi_b(6227)^-}$ $J^P = ?^?$ Status: $***$

$\Xi_b(6227)^-$ MASS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
6227.9±0.9±0.2	[1] AAIJ	21	LHCB	pp at 7, 8, 13 TeV

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

6226.9±2.0±0.4	[2,3] AAIJ	18H	LHCB	Repl. by AAIJ 2021

[1] AAIJ 21 measures $m(\Xi_b(6227)^-) - m(\Lambda_b^0) = 608.3 \pm 0.8 \pm 0.4$ MeV. We have adjusted the measurement to our best value of $m(\Lambda_b^0) = 5619.60 \pm 0.17$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.

[2] Uses $\Lambda_b^0 K^-$ and $\Xi_b^0 \pi^-$ modes.

[3] 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
19.9±2.1±1.5	[1] AAIJ	21	LHCB	pp at 7, 8, 13 TeV

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

18.1±5.4±1.8	[2] AAIJ	18H	LHCB	Repl. by AAIJ 2021

[1] Uses $\Lambda_b^0 K^-$ decays.

[2] 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	$\Lambda_b^0 K^- \times \mathrm{B}(b \to \Xi_b(6227))/\mathrm{B}(b \to \Lambda_b^0)$	$(3.20\pm0.35) \times 10^{-3}$	
Γ_2	$\Xi_b^0 \pi^- \times \mathrm{B}(b \to \Xi_b(6227))/\mathrm{B}(b \to \Xi_b^0)$	$(2.8 \pm 1.1)\%$	1.8

$\Xi_b(6227)^-$ BRANCHING RATIOS

$\Gamma\left(\Lambda_b^0 K^- \times \mathrm{B}(b \to \Xi_b(6227))/\mathrm{B}(b \to \Lambda_b^0)\right)/\Gamma_{\text{total}}$ 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

$\Gamma\left(\Xi_b^0 \pi^- \times B(b \to \Xi_b(6227))/B(b \to \Xi_b^0)\right)/\Gamma_{total}$ $\qquad\qquad$ 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	21	PR D103 012004	R. Aaij *et al.*	(LHCb Collab.)
AAIJ	18H	PRL 121 072002	R. Aaij *et al.*	(LHCb Collab.)