$\Xi_b(5945)^0$

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

Quantum numbers are based on quark model expectations.

$\Xi_b(5945)^0$ MASS

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
5949.8±1.4 OUR AVERAGE				
5949.8±0.1±1.4	[1] AAIJ	16AE	LHCB	pp at 7, 8 TeV
5948.9±0.8±1.4	[2] CHATRCHYAN	12S	CMS	pp at 7 TeV, 5.3 fb^{-1}

[1] AAIJ 16AE measures $m(\Xi_b(5945)^0) - m(\Xi_b^-) - m(\pi^+) = 15.727 \pm 0.068 \pm 0.023$ MeV. We have adjusted the measurement to our best values of $m(\Xi_b^-) = 5794.5 \pm 1.4$ MeV, $m(\pi^+) = 139.57061 \pm 0.00024$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.

[2] CHATRCHYAN 12S measures $m(\Xi_b(5945)^0) - m(\Xi_b^-) - m(\pi^+) = 14.84 \pm 0.74 \pm 0.28$ MeV. We have adjusted the measurement to our best values of $m(\Xi_b^-) = 5794.5 \pm 1.4$ MeV, $m(\pi^+) = 139.57061 \pm 0.00024$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.

$\Xi_b(5945)^0$ WIDTH

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
0.90±0.16±0.08	[3] AAIJ	16AE	LHCB	pp at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.1 ±1.7	[4] CHATRCHYAN	12S	CMS	pp at 7 TeV, 5.3 fb^{-1}

[3] Measured using $\Xi_b(5945)^0 \to \Xi_b^- \pi^+$, $\Xi_b^- \to \Xi_c^0 \pi^-$, $\Xi_c^0 \to p K^- K^- \pi^+$ decays.

[4] Systematic uncertainty not evaluated.

$\Xi_b(5945)^0$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Xi_b^- \pi^+$	seen

$\Xi_b(5945)^0$ BRANCHING RATIOS

$\Gamma(\Xi_b^- \pi^+)/\Gamma_{\text{total}}$ Γ_1/Γ

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
seen	AAIJ	16AE	ATLS	pp at 7, 8 TeV
seen	CHATRCHYAN	12S	CMS	pp at 7 TeV, 5.3 fb^{-1}

$\Xi_b(5945)^0$ REFERENCES

AAIJ	16AE	JHEP 1605 161	R. Aaij *et al.*	(LHCb Collab.)
CHATRCHYAN	12S	PRL 108 252002	S. Chatrchyan *et al.*	(CMS Collab.)