

$\Xi_b(5945)^0$ 

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

Status: \*\*\*

Quantum numbers are based on quark model expectations.

 $\Xi_b(5945)^0$  MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>5952.3 ± 0.6 OUR AVERAGE</b>			
5952.3 ± 0.1 ± 0.6	<sup>1</sup> AAIJ	16AE LHCB	$pp$ at 7, 8 TeV
5951.4 ± 0.8 ± 0.6	<sup>2</sup> CHATRCHYAN 12S	CMS	$pp$ at 7 TeV, 5.3 fb <sup>-1</sup>

<sup>1</sup> 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  $m(\Xi_b^-) = 5797.0 \pm 0.6$  MeV,  $m(\pi^+) = 139.57039 \pm 0.00018$  MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.<sup>2</sup> 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  $m(\Xi_b^-) = 5797.0 \pm 0.6$  MeV,  $m(\pi^+) = 139.57039 \pm 0.00018$  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
<b>0.90 ± 0.16 ± 0.08</b>	<sup>3</sup> AAIJ	16AE LHCB	$pp$ at 7, 8 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
2.1 ± 1.7	<sup>4</sup> CHATRCHYAN 12S	CMS	$pp$ at 7 TeV, 5.3 fb <sup>-1</sup>

<sup>3</sup> Measured using  $\Xi_b(5945)^0 \rightarrow \Xi_b^- \pi^+$ ,  $\Xi_b^- \rightarrow \Xi_c^0 \pi^-$ ,  $\Xi_c^0 \rightarrow p K^- K^- \pi^+$  decays.<sup>4</sup> Systematic uncertainty not evaluated. $\Xi_b(5945)^0$  DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \Xi_b^- \pi^+$	seen

 $\Xi_b(5945)^0$  BRANCHING RATIOS

$\Gamma(\Xi_b^- \pi^+)/\Gamma_{\text{total}}$				$\Gamma_1/\Gamma$
VALUE	DOCUMENT ID	TECN	COMMENT	
seen	AAIJ	16AE ATLS	$pp$ at 7, 8 TeV	
<b>seen</b>	CHATRCHYAN 12S	CMS	$pp$ at 7 TeV, 5.3 fb <sup>-1</sup>	

 $\Xi_b(5945)^0$  REFERENCES

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