

$\Lambda_b(5912)^0$ 

$$J^P = \frac{1}{2}^-$$

Status: \*\*\*

Quantum numbers are based on quark model expectations.

### $\Lambda_b(5912)^0$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>5912.16±0.16 OUR AVERAGE</b>			
5912.16±0.03±0.16	<sup>1</sup> AAIJ	20Q LHCB	$pp$ at 7, 8, 13 TeV
5912.29±0.12±0.16	<sup>2</sup> SIRUNYAN	20K CMS	$pp$ at 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •			
5912.17±0.13±0.16	<sup>3,4</sup> AAIJ	12AL LHCB	Repl. by AAIJ 20Q
<sup>1</sup> AAIJ 20Q measures $m(\Lambda_b(5912)^0) - m(\Lambda_b^0) = 292.589 \pm 0.029 \pm 0.010$ MeV. We have adjusted the measurement to our best value of $m(\Lambda_b^0) = 5619.57 \pm 0.16$ 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> SIRUNYAN 20K measures $m(\Lambda_b(5912)^0) - m(\Lambda_b^0) = 292.72 \pm 0.12 \pm 0.01$ MeV. We have adjusted the measurement to our best value of $m(\Lambda_b^0) = 5619.57 \pm 0.16$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.			
<sup>3</sup> Observed in $\Lambda_b(5912)^0 \rightarrow \Lambda_b^0 \pi^+ \pi^-$ decays with $17.6 \pm 4.8$ candidates with a significance of 5.2 sigma.			
<sup>4</sup> AAIJ 12AL measures $m(\Lambda_b(5912)^0) - m(\Lambda_b^0) = 292.60 \pm 0.12 \pm 0.04$ MeV. We have adjusted the measurement to our best value of $m(\Lambda_b^0) = 5619.57 \pm 0.16$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.			

### $\Lambda_b(5912)^0$ WIDTH

VALUE (MeV)	CL%	DOCUMENT ID	TECN	COMMENT
<b>&lt;0.25</b>	90	AAIJ	20Q LHCB	$pp$ at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.66	90	AAIJ	12AL LHCB	Repl. by AAIJ 20Q

### $\Lambda_b(5912)^0$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 \quad \Lambda_b^0 \pi^+ \pi^-$	seen

### $\Lambda_b(5912)^0$ BRANCHING RATIOS

$\Gamma(\Lambda_b^0 \pi^+ \pi^-)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	$\Gamma_1/\Gamma$
seen	AAIJ	20Q LHCB	$pp$ at 7, 8, 13 TeV	
seen	SIRUNYAN	20K CMS	$pp$ at 13 TeV	
<b>seen</b>	AAIJ	12AL LHCB	$pp$ at 7 TeV	

## $\Lambda_b(5912)^0$ REFERENCES

AAIJ	20Q	JHEP 2006 136	R. Aaij <i>et al.</i>	(LHCb Collab.)
SIRUNYAN	20K	PL B803 135345	A.M. Sirunyan <i>et al.</i>	(CMS Collab.)
AAIJ	12AL	PRL 109 172003	R. Aaij <i>et al.</i>	(LHCb Collab.)

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