

$\Lambda_b(5912)^0$ 

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

Status: \*\*\*

Quantum numbers are based on quark model expectations.

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

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
<b>5912.19±0.17 OUR AVERAGE</b>			
5912.19±0.03±0.17	<sup>1</sup> AAIJ	20Q LHCB	$pp$ at 7, 8, 13 TeV
5912.32±0.12±0.17	<sup>2</sup> SIRUNYAN	20K CMS	$pp$ at 13 TeV
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
5912.20±0.13±0.17	<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 $m(\Lambda_b^0) = 5619.60 \pm 0.17$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.			
<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 $m(\Lambda_b^0) = 5619.60 \pm 0.17$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.			
<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 $m(\Lambda_b^0) = 5619.60 \pm 0.17$ MeV. Our first error is their experiment's error and our second error is the systematic error from using our best values.			

### $\Lambda_b(5912)^0$ 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 ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $\Lambda_b^0 \pi^+ \pi^-$	seen

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

$\Gamma(\Lambda_b^0 \pi^+ \pi^-)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$		
VALUE	DOCUMENT ID	TECN	COMMENT
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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