

# $\Xi_b(5945)^0$

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

Status: \*\*\*

Quantum numbers are based on quark model expectations.

## $\Xi_b(5945)^0$ MASS

| VALUE (MeV)   | DOCUMENT ID                 | TECN | COMMENT                             |
|---|-----------------------------|------|-------------------------------------|
| <b>5945.5 ± 0.8 ± 2.2</b>   | <sup>1</sup> CHATRCHYAN 12S | CMS  | $pp$ at 7 TeV, 5.3 fb <sup>-1</sup> |
| <sup>1</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 $m(\Xi_b^-) = 5791.1 \pm 2.2$ MeV, $m(\pi^+) = 139.57018 \pm 0.00035$ 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>2.1 ± 1.7</b>                                   | <sup>2</sup> CHATRCHYAN 12S | CMS  | $pp$ at 7 TeV, 5.3 fb <sup>-1</sup> |
| <sup>2</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

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

## $\Xi_b(5945)^0$ REFERENCES

CHATRCHYAN 12S PRL 108 252002 S. Chatrchyan *et al.* (CMS Collab.)