



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

Status: \*\*\*

### $\Xi_b^*(5955)^-$ MASS

| VALUE (MeV)                  | DOCUMENT ID       | TECN     | COMMENT          |
|------------------------------|-------------------|----------|------------------|
| <b>5955.33 ± 0.12 ± 0.05</b> | <sup>1</sup> AAIJ | 15H LHCb | $pp$ at 7, 8 TeV |

<sup>1</sup> Not independent of the mass difference measurement below. Observed in  $\Xi_b^0 \pi^-$  channel with  $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$  and  $\Xi_c^+ \rightarrow p K^- \pi^+$ .

$$m_{\Xi_b^*(5955)^-} - m_{\Xi_b^0} - m_{\pi^-}$$

| VALUE (MeV)                | DOCUMENT ID       | TECN     | COMMENT          |
|----------------------------|-------------------|----------|------------------|
| <b>23.96 ± 0.12 ± 0.06</b> | <sup>2</sup> AAIJ | 15H LHCb | $pp$ at 7, 8 TeV |

<sup>2</sup> Observed in  $\Xi_b^0 \pi^-$  channel with  $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$  and  $\Xi_c^+ \rightarrow p K^- \pi^+$ .

### $\Xi_b^*(5955)^-$ WIDTH

| VALUE (MeV)               | DOCUMENT ID       | TECN     | COMMENT          |
|---------------------------|-------------------|----------|------------------|
| <b>1.65 ± 0.31 ± 0.10</b> | <sup>3</sup> AAIJ | 15H LHCb | $pp$ at 7, 8 TeV |

<sup>3</sup> Observed in  $\Xi_b^0 \pi^-$  channel with  $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$  and  $\Xi_c^+ \rightarrow p K^- \pi^+$ .

### $\Xi_b^*(5955)^-$ DECAY MODES

| Mode  | Fraction ( $\Gamma_i/\Gamma$ ) |
|---|--------------------------------|
| $\Gamma_1 \quad \Xi_b^0 \pi^- \times B(\bar{b} \rightarrow \Xi_b^*(5955)^-)/B(\bar{b} \rightarrow \Xi_b^0)$ | (20.7 ± 3.5) %                 |

### $\Xi_b^*(5955)^-$ BRANCHING RATIOS

$$\Gamma(\Xi_b^0 \pi^- \times B(\bar{b} \rightarrow \Xi_b^*(5955)^-)/B(\bar{b} \rightarrow \Xi_b^0))/\Gamma_{\text{total}} \quad \Gamma_1/\Gamma$$

| VALUE                        | DOCUMENT ID       | TECN     | COMMENT          |
|------------------------------|-------------------|----------|------------------|
| <b>0.207 ± 0.032 ± 0.015</b> | <sup>4</sup> AAIJ | 15H LHCb | $pp$ at 7, 8 TeV |

<sup>4</sup> Observed in  $\Xi_b^0 \pi^-$  channel with  $\Xi_b^0 \rightarrow \Xi_c^+ \pi^-$  and  $\Xi_c^+ \rightarrow p K^- \pi^+$ .

### $\Xi_b^*(5955)^-$ REFERENCES

AAIJ      15H   PRL 114 062004      R. Aaij *et al.*      (LHCb Collab.)