

$\Omega_c(3050)^0$

$I(J^P) = ?(??)$  Status: \*\*\*

AAIJ 21AC rejects  $J = 1/2$  hypothesis at  $2.2\,\sigma$ .

$\Omega_c(3050)^0$  MASS

| VALUE (MeV)                                                                                                                                                                   | EVTS | DOCUMENT ID       | TECN      | COMMENT                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------|-----------|----------------------------|
| <b>3050.17±0.19 OUR AVERAGE</b>                                                                                                                                               |      |                   |           |                            |
| 3050.18±0.04 <sup>+0.06</sup> <sub>−0.07</sub> ±0.23                                                                                                                          | 8.5k | <sup>1</sup> AAIJ | 23AS LHCB | $pp$ at 7, 8, 13 TeV       |
| 3050.1 ±0.3 ±0.2 <sup>+0.19</sup> <sub>−0.22</sub>                                                                                                                            | 33   | <sup>2</sup> AAIJ | 21AC LHCB | $pp$ at 7, 8, 13 TeV       |
| 3050.2 ±0.4 ±0.2                                                                                                                                                              | 28   | YELTON            | 18B BELL  | $e^+e^-$ at $\Upsilon(4S)$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • •                                                                                                 |      |                   |           |                            |
| 3050.2 ±0.1 ±0.1                                                                                                                                                              | 970  | <sup>3</sup> AAIJ | 17AH LHCB | $pp$ at 7, 8, 13 TeV       |
| <sup>1</sup> The third uncertainty is due to the uncertainty in the $\Xi_c^+$ mass, taken to be the PDG 22 fit result $2467.71 \pm 0.23$ MeV.                                 |      |                   |           |                            |
| <sup>2</sup> Measured via $\Omega_b^- \rightarrow \Omega_c^{*0} \pi^- \rightarrow \Xi_c^+ K^- \pi^-$ . The third uncertainty is due to the uncertainty in the $\Xi_c^+$ mass. |      |                   |           |                            |
| <sup>3</sup> See AAIJ 23AS.                                                                                                                                                   |      |                   |           |                            |

$\Omega_c(3050)^0$  WIDTH

| VALUE (MeV)                                                                                | CL% | EVTS | DOCUMENT ID       | TECN      | COMMENT              |
|--------------------------------------------------------------------------------------------|-----|------|-------------------|-----------|----------------------|
| <b>&lt;1.8</b>                                                                             | 95  | 8.5k | <sup>1</sup> AAIJ | 23AS LHCB | $pp$ at 7, 8, 13 TeV |
| • • • We do not use the following data for averages, fits, limits, etc. • • •              |     |      |                   |           |                      |
| <1.6                                                                                       | 95  | 33   | AAIJ              | 21AC LHCB | $pp$ at 7, 8, 13 TeV |
| <1.2                                                                                       | 95  | 970  | <sup>2</sup> AAIJ | 17AH LHCB | $pp$ at 7, 8, 13 TeV |
| <sup>1</sup> AAIJ 23AS also report a central value of $0.67 \pm 0.17^{+0.64}_{-0.72}$ MeV. |     |      |                   |           |                      |
| <sup>2</sup> See AAIJ 23AS.                                                                |     |      |                   |           |                      |

$\Omega_c(3050)^0$  DECAY MODES

| Mode                         | Fraction ( $\Gamma_i/\Gamma$ ) |
|------------------------------|--------------------------------|
| $\Gamma_1 \quad \Xi_c^+ K^-$ | seen                           |

$\Omega_c(3050)^0$  BRANCHING RATIOS

| $\Gamma(\Xi_c^+ K^-)/\Gamma_{\text{total}}$                                   |      |                     |      |         | $\Gamma_1/\Gamma$          |
|-------------------------------------------------------------------------------|------|---------------------|------|---------|----------------------------|
| VALUE                                                                         | EVTS | DOCUMENT ID         | TECN | COMMENT |                            |
| seen                                                                          | 8.5k | AAIJ                | 23AS | LHCB    | $pp$ at 7, 8, 13 TeV       |
| seen                                                                          | 33   | <sup>1</sup> AAIJ   | 21AC | LHCB    | $pp$ at 7, 8, 13 TeV       |
| seen                                                                          | 28   | <sup>2</sup> YELTON | 18B  | BELL    | $e^+e^-$ at $\Upsilon(4S)$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • |      |                     |      |         |                            |
| seen                                                                          | 970  | <sup>3,4</sup> AAIJ | 17AH | LHCB    | $pp$ at 7, 8, 13 TeV       |

<sup>1</sup>AAIJ 21AC report a significance of 9.9  $\sigma$ .  
<sup>2</sup>YELTON 18B report a significance of 4.6  $\sigma$   
<sup>3</sup>AAIJ 17AH report a significance of 20.4  $\sigma$ .  
<sup>4</sup>See AAIJ 23AS.

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**$\Omega_c(3050)^0$  REFERENCES**

|        |      |                  |                            |                 |
|--------|------|------------------|----------------------------|-----------------|
| AAIJ   | 23AS | PRL 131 131902   | R. Aaij <i>et al.</i>      | (LHCb Collab.)  |
| PDG    | 22   | PTEP 2022 083C01 | R.L. Workman <i>et al.</i> | (PDG Collab.)   |
| AAIJ   | 21AC | PR D104 L091102  | R. Aaij <i>et al.</i>      | (LHCb Collab.)  |
| YELTON | 18B  | PR D97 051102    | J. Yelton <i>et al.</i>    | (BELLE Collab.) |
| AAIJ   | 17AH | PRL 118 182001   | R. Aaij <i>et al.</i>      | (LHCb Collab.)  |

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