# $\Sigma_c(2800)$

$I(J^P) = 1(?^?)$ Status: ∗∗∗

Seen in the $\Lambda_c^+ \pi^+$, $\Lambda_c^+ \pi^0$, and $\Lambda_c^+ \pi^-$ mass spectra.

## $\Sigma_c(2800)$ MASSES

The masses are obtained from the mass-difference measurements that follow.

### $\Sigma_c(2800)^{++}$ MASS

| VALUE | DOCUMENT ID |
|---|---|
| $\mathbf{2801^{+4}_{-6}}$ **OUR FIT** | |

### $\Sigma_c(2800)^{+}$ MASS

| VALUE | DOCUMENT ID |
|---|---|
| $\mathbf{2792^{+14}_{-\ 5}}$ **OUR FIT** | |

### $\Sigma_c(2800)^{0}$ MASS

| VALUE | DOCUMENT ID |
|---|---|
| $\mathbf{2802^{+4}_{-7}}$ **OUR FIT** | |

## $\Sigma_c(2800)$ MASS DIFFERENCES

### $m_{\Sigma_c(2800)^{++}} - m_{\Lambda_c^+}$

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| $\mathbf{514\ ^{+4}_{-6}}$ **OUR FIT** | | | | | |
| $\mathbf{514.5^{+3.4+2.8}_{-3.1-4.9}}$ | $2810^{+1090}_{-\ 775}$ | MIZUK | 05 | BELL | $e^+e^- \approx \Upsilon(4S)$ |

### $m_{\Sigma_c(2800)^{+}} - m_{\Lambda_c^+}$

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| $\mathbf{505\ ^{+14}_{-\ 5}}$ **OUR FIT** | | | | | |
| $\mathbf{505.4^{+\ 5.8+12.4}_{-\ 4.6-\ \ 2.0}}$ | $1540^{+1750}_{-1050}$ | MIZUK | 05 | BELL | $e^+e^- \approx \Upsilon(4S)$ |

### $m_{\Sigma_c(2800)^{0}} - m_{\Lambda_c^+}$

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| $\mathbf{515\ ^{+4}_{-7}}$ **OUR FIT** | | | | | |
| $\mathbf{515.4^{+3.2+2.1}_{-3.1-6.0}}$ | $2240^{+1300}_{-\ 740}$ | MIZUK | 05 | BELL | $e^+e^- \approx \Upsilon(4S)$ |

# $\Sigma_c(2800)$ WIDTHS

## $\Sigma_c(2800)^{++}$ WIDTH

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| $\mathbf{75^{+18+12}_{-13-11}}$ | $2810^{+1090}_{-\ 775}$ | MIZUK | 05 | BELL | $e^+e^- \approx \Upsilon(4S)$ |

## $\Sigma_c(2800)^{+}$ WIDTH

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| $\mathbf{62^{+37+52}_{-23-38}}$ | $1540^{+1750}_{-1050}$ | MIZUK | 05 | BELL | $e^+e^- \approx \Upsilon(4S)$ |

## $\Sigma_c(2800)^{0}$ WIDTH

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| $\mathbf{61^{+18+22}_{-13-13}}$ | $2240^{+1300}_{-\ 740}$ | MIZUK | 05 | BELL | $e^+e^- \approx \Upsilon(4S)$ |

# $\Sigma_c(2800)$ DECAY MODES

| | Mode | Fraction $(\Gamma_i/\Gamma)$ |
|---|---|---|
| $\Gamma_1$ | $\Lambda_c^+\pi$ | seen |

# $\Sigma_c(2800)$ REFERENCES

MIZUK 05 PRL 94 122002 R. Mizuk et al. (BELLE Collab.)