

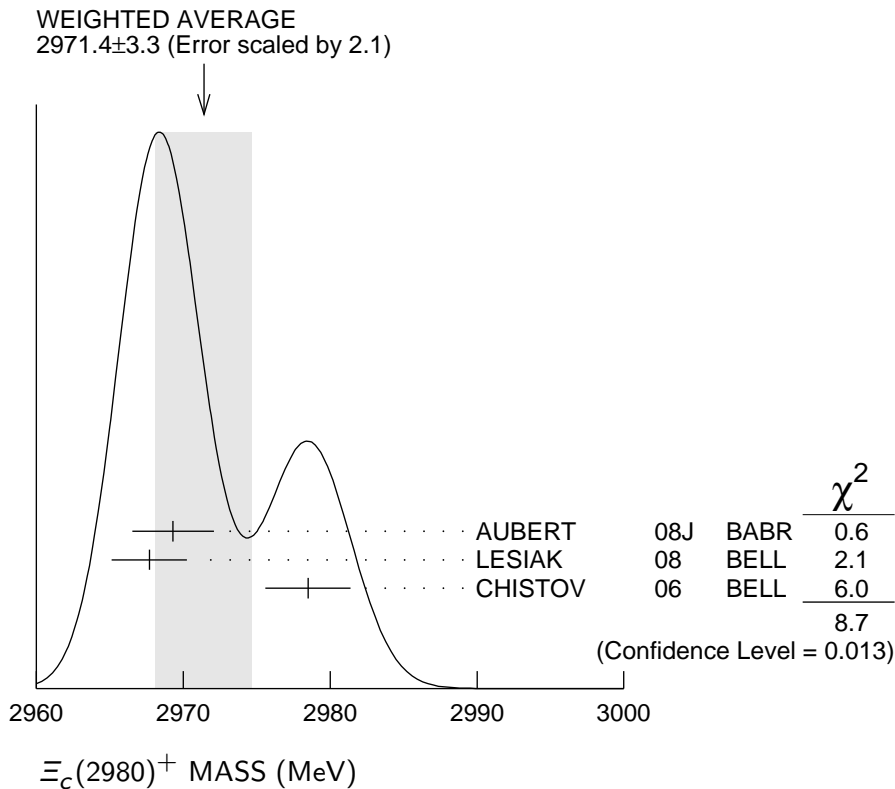
# $\Xi_c(2980)$

$$I(J^P) = \frac{1}{2}(??) \quad \text{Status: } ***$$

## $\Xi_c(2980)$ MASSES

### $\Xi_c(2980)^+$ MASS

| <u>VALUE (MeV)</u>  | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                 |
|---|-------------|--------------------|-------------|--------------------------------|
| <b>2971.4 ± 3.3 OUR AVERAGE</b> Error includes scale factor of 2.1. See the ideogram below. |             |                    |             |                                |
| 2969.3 ± 2.2 ± 1.7  | 756 ± 206   | AUBERT             | 08J BABR    | $e^+ e^- \approx 10.58$ GeV    |
| 2967.7 ± 2.3 <sup>+1.1</sup> <sub>-1.2</sub>  | 78 ± 13     | LESIAK             | 08 BELL     | $e^+ e^- \approx \Upsilon(4S)$ |
| 2978.5 ± 2.1 ± 2.0  | 405 ± 51    | CHISTOV            | 06 BELL     | $e^+ e^- \approx \Upsilon(4S)$ |



### $\Xi_c(2980)^0$ MASS

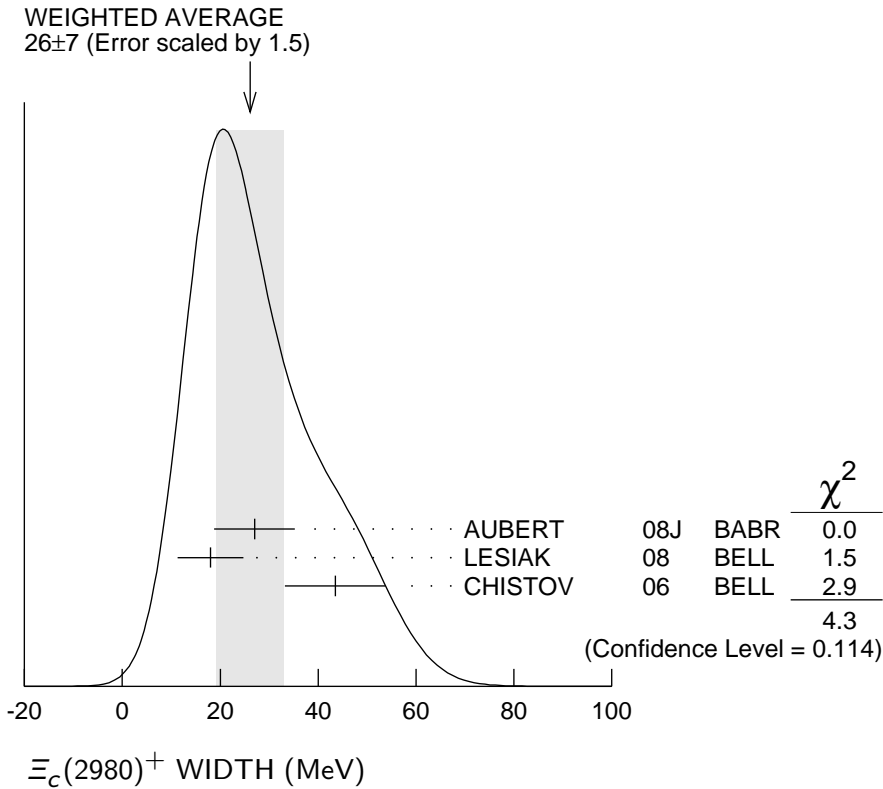
The evidence is statistically weaker for this charge state.

| <u>VALUE (MeV)</u>  | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                 |
|---|-------------|--------------------|-------------|--------------------------------|
| <b>2968.0 ± 2.6 OUR AVERAGE</b> Error includes scale factor of 1.2. |             |                    |             |                                |
| 2972.9 ± 4.4 ± 1.6  | 67 ± 44     | AUBERT             | 08J BABR    | $e^+ e^- \approx 10.58$ GeV    |
| 2965.7 ± 2.4 <sup>+1.1</sup> <sub>-1.2</sub>                        | 57 ± 13     | LESIAK             | 08 BELL     | $e^+ e^- \approx \Upsilon(4S)$ |
| 2977.1 ± 8.8 ± 3.5  | 42 ± 24     | CHISTOV            | 06 BELL     | $e^+ e^- \approx \Upsilon(4S)$ |

## $\Xi_c(2980)$ WIDTHS

### $\Xi_c(2980)^+$ WIDTH

| VALUE (MeV)              | EVTS      | DOCUMENT ID | TECN     | COMMENT   |
|--------------------------|-----------|-------------|----------|---|
| <b>26 ±7 OUR AVERAGE</b> |           |             |          | Error includes scale factor of 1.5. See the ideogram below. |
| 27 ±8 ±2                 | 756 ± 206 | AUBERT      | 08J BABR | $e^+ e^- \approx 10.58$ GeV                                 |
| 18 ±6 ±3                 | 78 ± 13   | LESIK       | 08 BELL  | $e^+ e^- \approx \Upsilon(4S)$                              |
| 43.5 ±7.5 ±7.0           | 405 ± 51  | CHISTOV     | 06 BELL  | $e^+ e^- \approx \Upsilon(4S)$                              |



### $\Xi_c(2980)^0$ WIDTH

| VALUE (MeV)              | EVTS    | DOCUMENT ID | TECN     | COMMENT                             |
|--------------------------|---------|-------------|----------|-------------------------------------|
| <b>20 ±7 OUR AVERAGE</b> |         |             |          | Error includes scale factor of 1.3. |
| 31 ±7 ±8                 | 67 ± 44 | AUBERT      | 08J BABR | $e^+ e^- \approx 10.58$ GeV         |
| 15 ±6 ±3                 | 57 ± 13 | LESIK       | 08 BELL  | $e^+ e^- \approx \Upsilon(4S)$      |

## $\Xi_c(2980)$ DECAY MODES

| Mode                                     | Fraction ( $\Gamma_i/\Gamma$ ) |
|--|--------------------------------|
| $\Gamma_1 \quad \Lambda_c^+ \bar{K} \pi$ | seen                           |
| $\Gamma_2 \quad \Sigma_c(2455) \bar{K}$  | seen                           |
| $\Gamma_3 \quad \Lambda_c^+ \bar{K}$     | not seen                       |
| $\Gamma_4 \quad \Xi_c 2\pi$              | seen                           |
| $\Gamma_5 \quad \Xi_c(2645) \pi$         | seen                           |

### $\Xi_c(2980)$ BRANCHING RATIOS

| $\Gamma(\Lambda_c^+ \bar{K} \pi) / \Gamma_{\text{total}}$ |                    |             |                                     | $\Gamma_1 / \Gamma$ |
|---|--------------------|-------------|-------------------------------------|---------------------|
| <u>VALUE</u>  | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                      |                     |
| <b>seen</b>   | AUBERT             | 08J         | BABR $e^+ e^- \approx \Upsilon(4S)$ |                     |
| <b>seen</b>   | CHISTOV            | 06          | BELL $e^+ e^- \approx \Upsilon(4S)$ |                     |

| $\Gamma(\Sigma_c(2455) \bar{K}) / \Gamma(\Lambda_c^+ \bar{K} \pi)$ |                    |             |                                     | $\Gamma_2 / \Gamma_1$ |
|--|--------------------|-------------|-------------------------------------|-----------------------|
| <u>VALUE</u>   | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                      |                       |
| <b><math>0.55 \pm 0.07 \pm 0.13</math></b>                         | AUBERT             | 08J         | BABR $e^+ e^- \approx \Upsilon(4S)$ |                       |

| $\Gamma(\Xi_c(2645) \pi) / \Gamma_{\text{total}}$ |                    |             |                                     | $\Gamma_5 / \Gamma$ |
|---|--------------------|-------------|-------------------------------------|---------------------|
| <u>VALUE</u>                                      | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                      |                     |
| <b>seen</b>                                       | LESIAK             | 08          | BELL $e^+ e^- \approx \Upsilon(4S)$ |                     |

### $\Xi_c(2980)$ REFERENCES

|         |     |               |                          |                 |
|---------|-----|---------------|--------------------------|-----------------|
| AUBERT  | 08J | PR D77 012002 | B. Aubert <i>et al.</i>  | (BABAR Collab.) |
| LESIAK  | 08  | PL B665 9     | T. Lesiak <i>et al.</i>  | (BELLE Collab.) |
| CHISTOV | 06  | PRL 97 162001 | R. Chistov <i>et al.</i> | (BELLE Collab.) |