



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

OMITTED FROM SUMMARY TABLE

This would presumably be an isospin-1/2 particle, a  $ccu \Xi_{cc}^{++}$  and a  $ccd \Xi_{cc}^+$ . However, opposed to the evidence cited below, the BABAR experiment has found no evidence for a  $\Xi_{cc}^+$  in a search in  $\Lambda_c^+ K^- \pi^+$  and  $\Xi_c^0 \pi^+$  modes, and no evidence of a  $\Xi_{cc}^{++}$  in  $\Lambda_c^+ K^- \pi^+ \pi^+$  and  $\Xi_c^0 \pi^+ \pi^+$  modes (AUBERT,B 06D). Nor has the BELLE experiment found any evidence for a  $\Xi_{cc}^+$  in the  $\Lambda_c^+ K^- \pi^+$  mode (CHISTOV 06).

**$\Xi_{cc}^+$  MASS**

| <u>VALUE (MeV)</u>              | <u>EVTS</u> | <u>DOCUMENT ID</u>         | <u>TECN</u> | <u>COMMENT</u>                       |
|---------------------------------|-------------|----------------------------|-------------|--------------------------------------|
| <b>3518.9 ± 0.9 OUR AVERAGE</b> |             |                            |             |                                      |
| 3518 ± 3                        | 6           | <sup>1</sup> OCHERASHVI.05 | SELX        | $\Sigma^-$ nucleus $\approx$ 600 GeV |
| 3519 ± 1                        | 16          | <sup>2</sup> MATTSON 02    | SELX        | $\Sigma^-$ nucleus $\approx$ 600 GeV |

<sup>1</sup> OCHERASHVILI 05 claims "an excess of 5.62 events over ...  $1.38 \pm 0.13$  events" for a significance of  $4.8 \sigma$  in  $pD^+ K^-$  events.

<sup>2</sup> MATTSON 02 claims "an excess of 15.9 events over an expected background of  $6.1 \pm 0.5$  events, a statistical significance of  $6.3 \sigma$ " in the  $\Lambda_c^+ K^- \pi^+$  invariant-mass spectrum.

The probability that the peak is a fluctuation increases from  $1.0 \times 10^{-6}$  to  $1.1 \times 10^{-4}$  when the number of bins searched is considered.

**$\Xi_{cc}^+$  MEAN LIFE**

| <u>VALUE (<math>10^{-15}</math> s)</u> | <u>CL%</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                        |
|--|------------|--------------------|-------------|---------------------------------------|
| <b>&lt;33</b>                          | 90         | MATTSON 02         | SELX        | $\Sigma^-$ nucleus, $\approx$ 600 GeV |

**$\Xi_{cc}^+$  DECAY MODES**

| Mode       |                         |
|------------|-------------------------|
| $\Gamma_1$ | $\Lambda_c^+ K^- \pi^+$ |
| $\Gamma_2$ | $pD^+ K^-$              |

| $\Gamma(pD^+ K^-)/\Gamma(\Lambda_c^+ K^- \pi^+)$ |             |                    |             | $\Gamma_2/\Gamma_1$        |
|--|-------------|--------------------|-------------|----------------------------|
| <u>VALUE</u>                                     | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>             |
| <b>0.36 ± 0.21</b>                               | 6           | OCHERASHVI.05      | SELX        | $\Sigma^- \approx$ 600 GeV |

 **REFERENCES**

|               |     |               |                               |                      |
|---------------|-----|---------------|-------------------------------|----------------------|
| AUBERT,B      | 06D | PR D74 011103 | B. Aubert <i>et al.</i>       | (BABAR Collab.)      |
| CHISTOV       | 06  | PRL 97 162001 | R. Chistov <i>et al.</i>      | (BELLE Collab.)      |
| OCHERASHVI... | 05  | PL B628 18    | A. Ocherashvili <i>et al.</i> | (FNAL SELEX Collab.) |
| MATTSON       | 02  | PRL 89 112001 | M. Mattson <i>et al.</i>      | (FNAL SELEX Collab.) |

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