



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

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 Ξ_{cc}^+ in a search in $\Lambda_c^+ K^- \pi^+$ and $\Xi_c^0 \pi^+$ modes, and no evidence of a Ξ_{cc}^{++} in $\Lambda_c^+ K^- \pi^+ \pi^+$ and $\Xi_c^0 \pi^+ \pi^+$ modes (AUBERT,B 06D). Nor have the BELLE (CHISTOV 06, KATO 14) or LHCb (AAIJ 13CD) experiments found any evidence for this state.

Ξ_{cc}^+ MASS

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

¹ OCHERASHVILI 05 claims "an excess of 5.62 events over ... 1.38 ± 0.13 events" for a significance of 4.8 σ in $pD^+ K^-$ events.

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

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

Ξ_{cc}^+ MEAN LIFE

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

Ξ_{cc}^+ DECAY MODES

| <u>Mode</u> | |
|-------------|-------------------------|
| Γ_1 | $\Lambda_c^+ K^- \pi^+$ |
| Γ_2 | $pD^+ K^-$ |

| <u>$\Gamma(pD^+ K^-)/\Gamma(\Lambda_c^+ K^- \pi^+)$</u> | | | | <u>Γ_2/Γ_1</u> |
|--|-------------|--------------------|-------------|---------------------------------------|
| <u>VALUE</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
| 0.36±0.21 | 6 | OCHERASHVI.05 | SELX | $\Sigma^- \approx$ 600 GeV |

 REFERENCES

| | | | | |
|---------------|------|---------------|-------------------------------|----------------------|
| KATO | 14 | PR D89 052003 | Y. Kato <i>et al.</i> | (BELLE Collab.) |
| AAIJ | 13CD | JHEP 1312 090 | R. Aaij <i>et al.</i> | (LHCb Collab.) |
| 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.) |
