

$T_{c\bar{c}1}(4200)^+$

$I^G(J^{PC}) = 1^+(1^+-)$   
 $I, G, C$  need confirmation.

OMITTED FROM SUMMARY TABLE

was  $Z_c(4200), X(4200)^\pm$

This state shows properties different from a conventional  $q\bar{q}$  state.  
A candidate for an exotic structure. See the review on non- $q\bar{q}$  states.

Reported by CHILIKIN 14 in  $J/\psi\pi^+$  at a significance of  $6.2\sigma$ . As-  
signments of  $0^-, 1^-, 2^-$ , and  $2^+$  excluded at  $6.1\sigma, 7.4\sigma, 4.4\sigma$ ,  
and  $7.0\sigma$  level, respectively. Needs confirmation.

$T_{c\bar{c}1}(4200)^+$  MASS

| VALUE (MeV)              | DOCUMENT ID | TECN | COMMENT                                  |
|--------------------------|-------------|------|------------------------------------------|
| $4196^{+31+17}_{-29-13}$ | CHILIKIN 14 | BELL | $\bar{B}^0 \rightarrow J/\psi K^- \pi^+$ |

$T_{c\bar{c}1}(4200)^+$  WIDTH

| VALUE (MeV)               | DOCUMENT ID | TECN | COMMENT                                  |
|---------------------------|-------------|------|------------------------------------------|
| $370 \pm 70^{+70}_{-132}$ | CHILIKIN 14 | BELL | $\bar{B}^0 \rightarrow J/\psi K^- \pi^+$ |

$T_{c\bar{c}1}(4200)^+$  DECAY MODES

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

$T_{c\bar{c}1}(4200)^+$  BRANCHING RATIOS

| $\Gamma(J/\psi\pi^+)/\Gamma_{\text{total}}$                                   | $\Gamma_1/\Gamma$                                                           |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| VALUE                                                                         | DOCUMENT ID TECN COMMENT                                                    |
| seen                                                                          | CHILIKIN 14 BELL $\bar{B}^0 \rightarrow J/\psi K^- \pi^+$                   |
| • • • We do not use the following data for averages, fits, limits, etc. • • • |                                                                             |
| possibly seen                                                                 | <sup>1</sup> AAIJ 19R LHCB $B^0 \rightarrow K^+ \pi^- J/\psi + \text{c.c.}$ |
| <sup>1</sup> From a model-independent analysis.                               |                                                                             |

$T_{c\bar{c}1}(4200)^+$  REFERENCES

|          |     |                |                           |                 |
|----------|-----|----------------|---------------------------|-----------------|
| AAIJ     | 19R | PRL 122 152002 | R. Aaij <i>et al.</i>     | (LHCb Collab.)  |
| CHILIKIN | 14  | PR D90 112009  | K. Chilikin <i>et al.</i> | (BELLE Collab.) |