

# X(4250)<sup>±</sup>

$$J^G(J^{PC}) = 1^-(?^?+)$$

*I, G, C* need confirmation.

## OMITTED FROM SUMMARY TABLE

Properties incompatible with a  $q\bar{q}$  structure (exotic state). See the review on non- $q\bar{q}$  states.

Observed by MIZUK 08 in the  $\pi^+ \chi_{c1}(1P)$  invariant mass distribution in  $\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$  decays. Not seen by LEES 12B in this same mode after accounting for  $K\pi$  resonant mass and angular structure.

### X(4250)<sup>±</sup> MASS

| VALUE (MeV)                                    | DOCUMENT ID        | TECN    | COMMENT   |
|--|--------------------|---------|---|
| <b>4248<sup>+44+180</sup><sub>-29-35</sub></b> | <sup>1</sup> MIZUK | 08 BELL | $\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$ |

<sup>1</sup> From a Dalitz plot analysis with two Breit-Wigner amplitudes.

### X(4250)<sup>±</sup> WIDTH

| VALUE (MeV)                                   | DOCUMENT ID        | TECN    | COMMENT   |
|---|--------------------|---------|---|
| <b>177<sup>+54+316</sup><sub>-39-61</sub></b> | <sup>1</sup> MIZUK | 08 BELL | $\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$ |

<sup>1</sup> From a Dalitz plot analysis with two Breit-Wigner amplitudes.

### X(4250)<sup>±</sup> DECAY MODES

| Mode                                 | Fraction ( $\Gamma_i/\Gamma$ ) |
|--------------------------------------|--------------------------------|
| $\Gamma_1 \quad \pi^+ \chi_{c1}(1P)$ | seen                           |

### X(4250)<sup>±</sup> BRANCHING RATIOS

| $\Gamma(\pi^+ \chi_{c1}(1P))/\Gamma_{\text{total}}$ | $\Gamma_1/\Gamma$ |      |         |
|---|-------------------|------|---------|
| VALUE   | DOCUMENT ID       | TECN | COMMENT |

**seen** <sup>1</sup> MIZUK 08 BELL  $\bar{B}^0 \rightarrow K^- \pi^+ \chi_{c1}(1P)$

• • • We do not use the following data for averages, fits, limits, etc. • • •

not seen <sup>2</sup> LEES 12B BABR  $B \rightarrow K\pi\chi_{c1}(1P)$

<sup>1</sup> With a product branching fraction measurement of  $B(\bar{B}^0 \rightarrow K^- X(4250)^+) \times B(X(4250)^+ \rightarrow \pi^+ \chi_{c1}(1P)) = (4.0^{+2.3+19.7}_{-0.9-0.5}) \times 10^{-5}$ .

<sup>2</sup> With a product branching fraction limit of  $B(\bar{B}^0 \rightarrow X(4250)^+ K^-) \times B(X(4250)^+ \rightarrow \chi_{c1}\pi^+) < 4.0 \times 10^{-5}$  at 90% CL.

### X(4250)<sup>±</sup> REFERENCES

|       |     |               |                         |                 |
|-------|-----|---------------|-------------------------|-----------------|
| LEES  | 12B | PR D85 052003 | J.P. Lees <i>et al.</i> | (BABAR Collab.) |
| MIZUK | 08  | PR D78 072004 | R. Mizuk <i>et al.</i>  | (BELLE Collab.) |