

# $D_1(2420)^\pm$

$I(J^P) = \frac{1}{2}(??)$   
 $I$  needs confirmation.

OMITTED FROM SUMMARY TABLE

Seen in  $D^*(2007)^0 \pi^+$ .  $J^P = 0^+$  ruled out.

## $D_1(2420)^\pm$ MASS

| <u>VALUE (MeV)</u>  | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                       |
|---|-------------|--------------------|-------------|--------------------------------------|
| <b>2427 ± 5 OUR AVERAGE</b> Error includes scale factor of 2.0. |             |                    |             |                                      |
| 2425 ± 2 ± 2  | 146         | BERGFELD           | 94B CLE2    | $e^+ e^- \rightarrow D^{*0} \pi^+ X$ |
| 2443 ± 7 ± 5  | 190         | ANJOS              | 89C TPS     | $\gamma N \rightarrow D^0 \pi^+ X^0$ |

## $m_{D_1^*(2420)^\pm} - m_{D_1^*(2420)^0}$

| <u>VALUE (MeV)</u>                 | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                |
|------------------------------------|--------------------|-------------|-------------------------------|
| <b><math>4^+_{-3} \pm 3</math></b> | BERGFELD           | 94B CLE2    | $e^+ e^- \rightarrow$ hadrons |

## $D_1(2420)^\pm$ WIDTH

| <u>VALUE (MeV)</u>        | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                       |
|---------------------------|-------------|--------------------|-------------|--------------------------------------|
| <b>28 ± 8 OUR AVERAGE</b> |             |                    |             |                                      |
| $26^+_{-7} \pm 4$         | 146         | BERGFELD           | 94B CLE2    | $e^+ e^- \rightarrow D^{*0} \pi^+ X$ |
| 41 ± 19 ± 8               | 190         | ANJOS              | 89C TPS     | $\gamma N \rightarrow D^0 \pi^+ X^0$ |

## $D_1(2420)^\pm$ DECAY MODES

$D_1^*(2420)^-$  modes are charge conjugates of modes below.

| Mode                           | Fraction ( $\Gamma_i/\Gamma$ ) |
|--------------------------------|--------------------------------|
| $\Gamma_1$ $D^*(2007)^0 \pi^+$ | seen                           |
| $\Gamma_2$ $D^0 \pi^+$         | not seen                       |

## $D_1(2420)^\pm$ BRANCHING RATIOS

| $\Gamma(D^*(2007)^0 \pi^+)/\Gamma_{\text{total}}$ | $\Gamma_1/\Gamma$  |             |                                      |
|---|--------------------|-------------|--------------------------------------|
| <u>VALUE</u>                                      | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u>                       |
| seen  | ANJOS              | 89C TPS     | $\gamma N \rightarrow D^0 \pi^+ X^0$ |

| $\Gamma(D^0 \pi^+)/\Gamma(D^*(2007)^0 \pi^+)$ | $\Gamma_2/\Gamma_1$ |                    |             |                |
|---|---------------------|--------------------|-------------|----------------|
| <u>VALUE</u>                                  | <u>CL%</u>          | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |

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

|       |    |          |          |                               |
|-------|----|----------|----------|-------------------------------|
| <0.18 | 90 | BERGFELD | 94B CLE2 | $e^+ e^- \rightarrow$ hadrons |
|-------|----|----------|----------|-------------------------------|

## $D_1(2420)^\pm$ REFERENCES

|          |     |             |                           |                     |
|----------|-----|-------------|---------------------------|---------------------|
| BERGFELD | 94B | PL B340 194 | T. Bergfeld <i>et al.</i> | (CLEO Collab.)      |
| ANJOS    | 89C | PRL 62 1717 | J.C. Anjos <i>et al.</i>  | (FNAL E691 Collab.) |

## OTHER RELATED PAPERS

|         |    |                             |              |
|---------|----|-----------------------------|--------------|
| SEMENOV | 99 | SPU 42 847                  | S.V. Semenov |
|         |    | Translated from UFN 42 937. |              |

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