

$$D_2^*(2460)^\pm$$

$$I(J^P) = \frac{1}{2}(2^+)$$

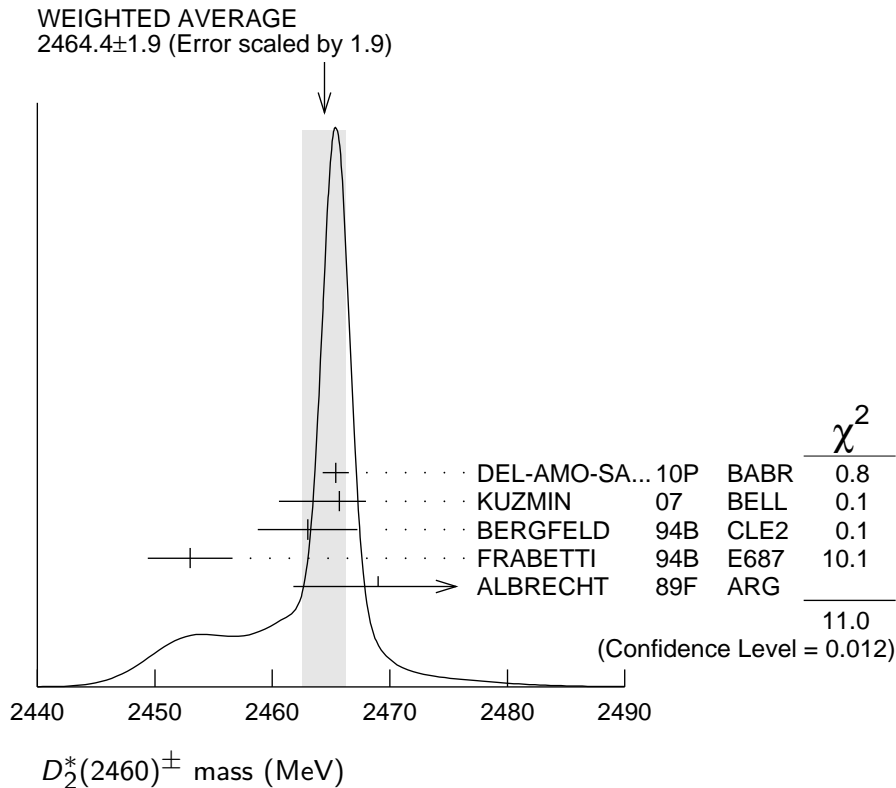
$J^P = 2^+$ assignment strongly favored (ALBRECHT 89B).

$D_2^*(2460)^\pm$ MASS

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---|------|---|------|--|
| 2464.4 ± 1.9 OUR AVERAGE | | Error includes scale factor of 1.9. See the ideogram below. | | |
| 2465.4 ± 0.2 ± 1.1 | 111k | ¹ DEL-AMO-SA...10P | BABR | $e^+e^- \rightarrow D^0\pi^+X$ |
| 2465.7 ± 1.8 ^{+1.4} _{-4.8} | 2909 | KUZMIN | 07 | BELL $e^+e^- \rightarrow$ hadrons |
| 2463 ± 3 ± 3 | 310 | BERGFELD | 94B | CLE2 $e^+e^- \rightarrow D^0\pi^+X$ |
| 2453 ± 3 ± 2 | 185 | FRABETTI | 94B | E687 $\gamma\text{Be} \rightarrow D^0\pi^+X$ |
| 2469 ± 4 ± 6 | | ALBRECHT | 89F | ARG $e^+e^- \rightarrow D^0\pi^+X$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 2467.6 ± 1.5 ± 0.8 | 3.5k | ² LINK | 04A | FOCS γA |

¹ At a fixed width of 50.5 MeV.

² Fit includes the contribution from $D_0^*(2400)^\pm$. Not independent of the corresponding mass difference measurement, $(m_{D_2^*(2460)^\pm}) - (m_{D_2^*(2460)^0})$.



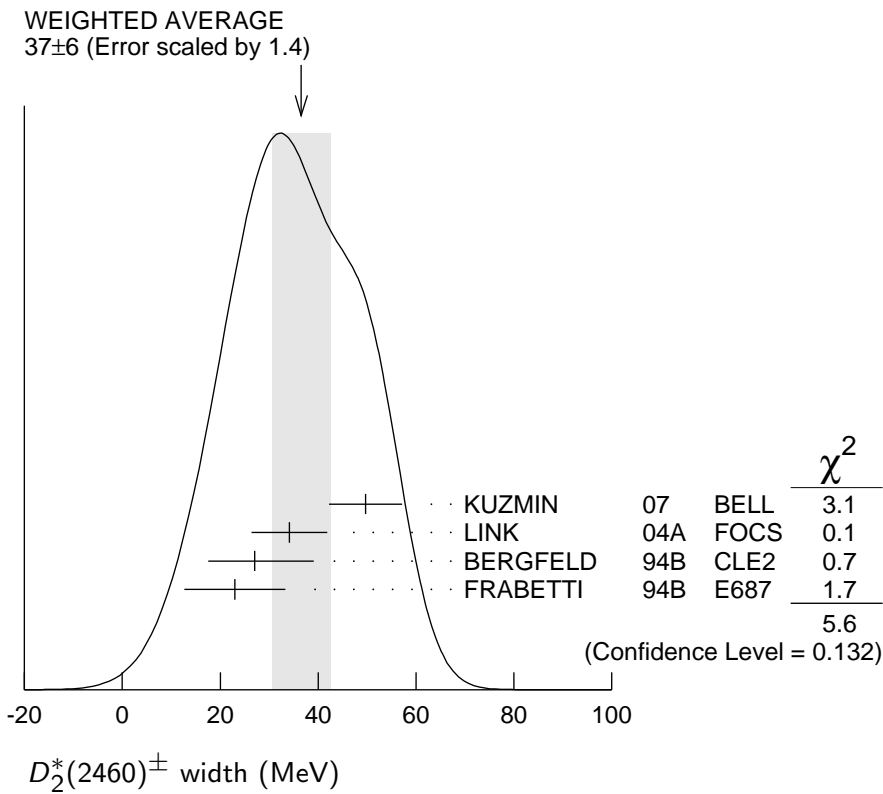
$m_{D_2^*(2460)^\pm} - m_{D_2^*(2460)^0}$

| VALUE (MeV) | DOCUMENT ID | TECN | COMMENT |
|------------------------------|-------------|------|---|
| 2.4 ± 1.7 OUR AVERAGE | | | |
| 3.1 ± 1.9 ± 0.9 | LINK | 04A | FOCS γ A |
| - 2 ± 4 ± 4 | BERGFELD | 94B | CLE2 $e^+e^- \rightarrow$ hadrons |
| 0 ± 4 | FRABETTI | 94B | E687 γ Be \rightarrow $D\pi X$ |
| 14 ± 5 ± 8 | ALBRECHT | 89F | ARG $e^+e^- \rightarrow D^0\pi^+ X$ |

$D_2^*(2460)^\pm$ WIDTH

| VALUE (MeV) | EVTS | DOCUMENT ID | TECN | COMMENT |
|---------------------------|---|-------------------|------|---|
| 37 ± 6 OUR AVERAGE | Error includes scale factor of 1.4. See the ideogram below. | | | |
| 49.7 ± 3.8 ± 6.4 | 2909 | KUZMIN | 07 | BELL $e^+e^- \rightarrow$ hadrons |
| 34.1 ± 6.5 ± 4.2 | 3.5k | ³ LINK | 04A | FOCS γ A |
| 27 $^{+11}_{-8}$ ± 5 | 310 | BERGFELD | 94B | CLE2 $e^+e^- \rightarrow D^0\pi^+ X$ |
| 23 ± 9 ± 5 | 185 | FRABETTI | 94B | E687 γ Be $\rightarrow D^0\pi^+ X$ |

³Fit includes the contribution from $D_0^*(2400)^\pm$.



$D_2^*(2460)^\pm$ DECAY MODES

$D_2^*(2460)^-$ modes are charge conjugates of modes below.

| Mode | Fraction (Γ_i/Γ) |
|---------------------------------|--------------------------------|
| Γ_1 $D^0 \pi^+$ | seen |
| Γ_2 $D^{*0} \pi^+$ | seen |
| Γ_3 $D^+ \pi^+ \pi^-$ | not seen |
| Γ_4 $D^{*+} \pi^+ \pi^-$ | not seen |

$D_2^*(2460)^\pm$ BRANCHING RATIOS

| $\Gamma(D^0 \pi^+)/\Gamma_{\text{total}}$ | | | | Γ_1/Γ |
|---|-------------|------|---------|-----------------------------------|
| VALUE | DOCUMENT ID | TECN | COMMENT | |
| seen | ALBRECHT | 89F | ARG | $e^+ e^- \rightarrow D^0 \pi^+ X$ |

| $\Gamma(D^0 \pi^+)/\Gamma(D^{*0} \pi^+)$ | | | | Γ_1/Γ_2 |
|--|-------------|------|---------|--------------------------------------|
| VALUE | DOCUMENT ID | TECN | COMMENT | |
| $1.9 \pm 1.1 \pm 0.3$ | BERGFELD | 94B | CLE2 | $e^+ e^- \rightarrow \text{hadrons}$ |

| $\Gamma(D^0 \pi^+)/[\Gamma(D^0 \pi^+) + \Gamma(D^{*0} \pi^+)]$ | | | | $\Gamma_1/(\Gamma_1 + \Gamma_2)$ |
|--|------|-------------|------|----------------------------------|
| VALUE | EVTS | DOCUMENT ID | TECN | COMMENT |

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

$0.62 \pm 0.03 \pm 0.02$ 3361 ⁴ AUBERT 09Y BABR $\bar{B}^0 \rightarrow D_2^{*+} \ell^- \nu_\ell$

⁴ Assuming $\Gamma(\Upsilon(4S) \rightarrow B^+ B^-) / \Gamma(\Upsilon(4S) \rightarrow B^0 \bar{B}^0) = 1.065 \pm 0.026$ and equal partial widths for charged and neutral D_2^* mesons.

$D_2^*(2460)^\pm$ REFERENCES

| | | | |
|-------------------|----------------|----------------------------------|---------------------|
| DEL-AMO-SA... 10P | PR D82 111101 | P. del Amo Sanchez <i>et al.</i> | (BABAR Collab.) |
| AUBERT 09Y | PRL 103 051803 | B. Aubert <i>et al.</i> | (BABAR Collab.) |
| KUZMIN 07 | PR D76 012006 | A. Kuzmin <i>et al.</i> | (BELLE Collab.) |
| LINK 04A | PL B586 11 | J.M. Link <i>et al.</i> | (FOCUS Collab.) |
| BERGFELD 94B | PL B340 194 | T. Bergfeld <i>et al.</i> | (CLEO Collab.) |
| FRABETTI 94B | PRL 72 324 | P.L. Frabetti <i>et al.</i> | (FNAL E687 Collab.) |
| ALBRECHT 89B | PL B221 422 | H. Albrecht <i>et al.</i> | (ARGUS Collab.) |
| ALBRECHT 89F | PL B231 208 | H. Albrecht <i>et al.</i> | (ARGUS Collab.) |