# $D_2^*(2460)^0$

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

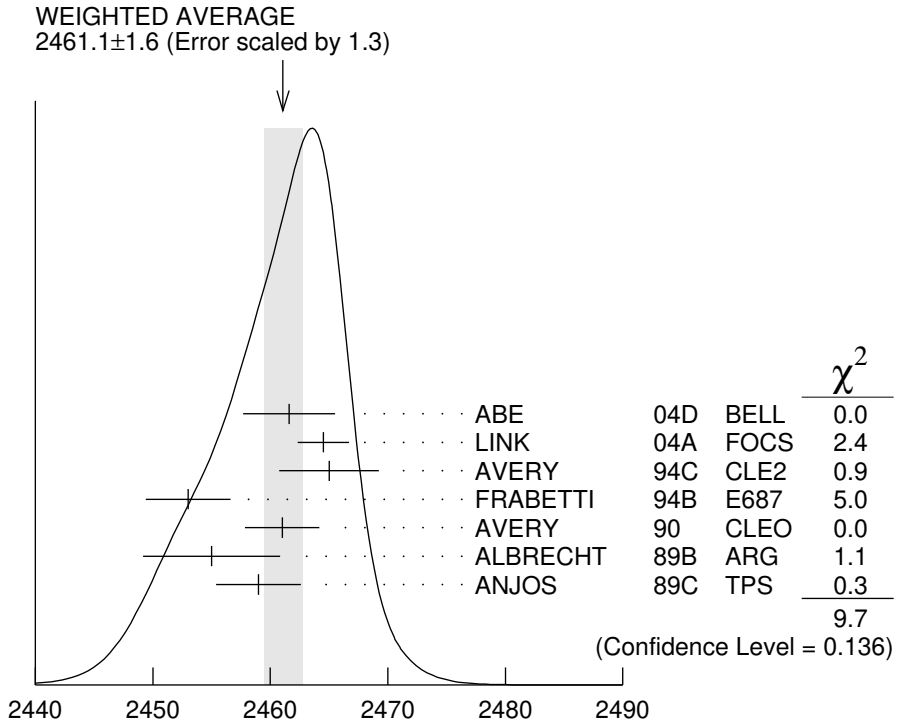
$J^P = 2^+$ assignment strongly favored(ALBRECHT 89B).

## $D_2^*(2460)0$ MASS

| *VALUE* (MeV) | *EVTS* | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|---|
| **2461.1±1.6 OUR AVERAGE** | | Error includes scale factor of 1.3. See the ideogram below. | | | |
| 2461.6±2.1±3.3 | | [1] ABE | 04D | BELL | $B^- \to D^+\pi^-\pi^-$ |
| 2464.5±1.1±1.9 | 5.8k | [1] LINK | 04A | FOCS | $\gamma$ A |
| 2465 ±3 ±3 | 486 | AVERY | 94C | CLE2 | $e^+e^- \to D^+\pi^-$X |
| 2453 ±3 ±2 | 128 | FRABETTI | 94B | E687 | $\gamma$Be $\to D^+\pi^-$X |
| 2461 ±3 ±1 | 440 | AVERY | 90 | CLEO | $e^+e^- \to D^{*+}\pi^-$X |
| 2455 ±3 ±5 | 337 | ALBRECHT | 89B | ARG | $e^+e^- \to D^+\pi^-$X |
| 2459 ±3 ±2 | 153 | ANJOS | 89C | TPS | $\gamma N \to D^+\pi^-$X |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | | |
| 2463.3±0.6±0.8 | 20k | ABULENCIA | 06A | CDF | 1900 $p\overline{p} \to D^+\pi^-$X |
| 2461 ±6 | 126 | [2] ABREU | 98M | DLPH | $e^+e^-$ |
| 2466 ±7 | 1 | ASRATYAN | 95 | BEBC | 53,40 $\nu(\overline{\nu}) \to p + X$, $d + X$ |

[1] Fit includes the contribution from $D_0^*(2400)^0$.

[2] No systematic error given.



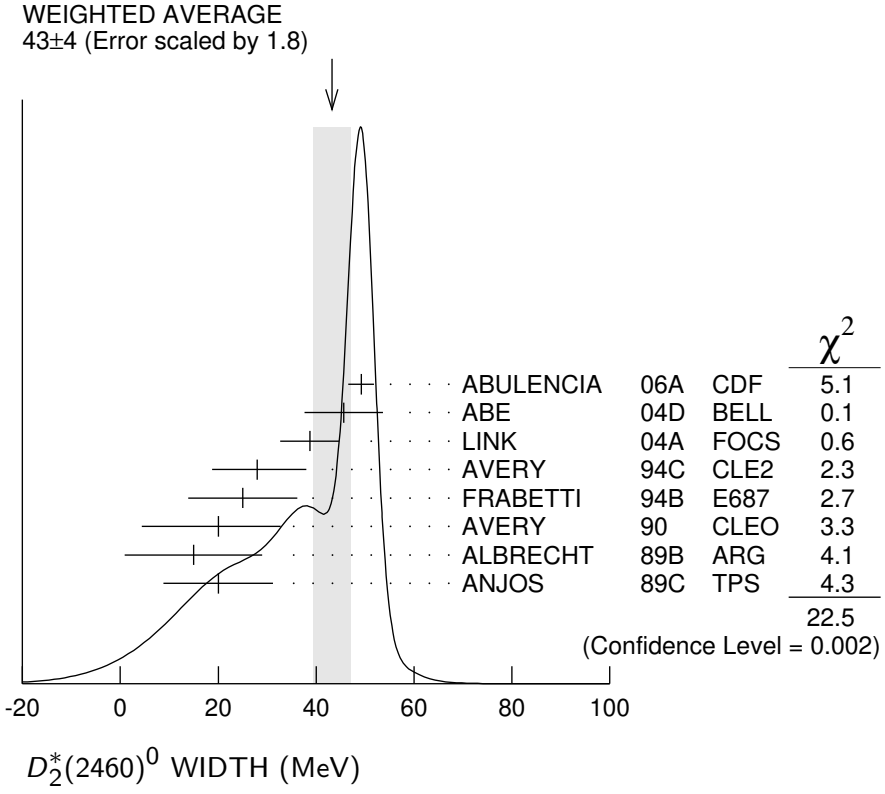
### $m_{D_2^{*0}} - m_{D^+}$

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| **593.9±0.6±0.5** | 20k | ABULENCIA | 06A | CDF | 1900 $p\overline{p} \rightarrow D^+\pi^- X$ |

## $D_2^*(2460)^0$ WIDTH

| VALUE (MeV) | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| **43 ± 4 OUR AVERAGE** Error includes scale factor of 1.8. See the ideogram below. | | | | | |
| 49.2± 2.3± 1.3 | 20k | ABULENCIA | 06A | CDF | 1900 $p\overline{p} \rightarrow D^+\pi^- X$ |
| 45.6± 4.4± 6.7 | | [3] ABE | 04D | BELL | $B^- \rightarrow D^+\pi^-\pi^-$ |
| 38.7± 5.3± 2.9 | 5.8k | [3] LINK | 04A | FOCS | $\gamma$ A |
| $28\ ^{+\ 8}_{-\ 7}\ \pm 6$ | 486 | AVERY | 94C | CLE2 | $e^+e^- \rightarrow D^+\pi^- X$ |
| 25 ±10 ± 5 | 128 | FRABETTI | 94B | E687 | $\gamma$Be $\rightarrow D^+\pi^- X$ |
| $20\ ^{+\ 9}_{-12}\ ^{+\ 9}_{-10}$ | 440 | AVERY | 90 | CLEO | $e^+e^- \rightarrow D^{*+}\pi^- X$ |
| $15\ ^{+13}_{-10}\ ^{+\ 5}_{-10}$ | 337 | ALBRECHT | 89B | ARG | $e^+e^- \rightarrow D^+\pi^- X$ |
| 20 ±10 ± 5 | 153 | ANJOS | 89C | TPS | $\gamma N \rightarrow D^+\pi^- X$ |

[3] Fit includes the contribution from $D_0^*(2400)^0$.



## $D_2^*(2460)^0$ DECAY MODES

$\overline{D}_2^*(2460)^0$ modes are charge conjugates of modes below.

| | Mode | Fraction ($\Gamma_i/\Gamma$) |
|---|---|---|
| $\Gamma_1$ | $D^+\pi^-$ | seen |
| $\Gamma_2$ | $D^*(2010)^+\pi^-$ | seen |
| $\Gamma_3$ | $D^0\pi^+\pi^-$ | not seen |
| $\Gamma_4$ | $D^{*0}\pi^+\pi^-$ | not seen |

## $D_2^*(2460)^0$ BRANCHING RATIOS

### $\Gamma(D^+\pi^-)/\Gamma_{total}$ $\Gamma_1/\Gamma$

| VALUE | EVTS | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|---|
| **seen** | 337 | ALBRECHT | 89B | ARG | $e^+e^- \to D^+\pi^-X$ |
| **seen** | | ANJOS | 89C | TPS | $\gamma N \to D^+\pi^-X$ |

### $\Gamma(D^*(2010)^+\pi^-)/\Gamma_{total}$ $\Gamma_2/\Gamma$

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| **seen** | ACKERSTAFF | 97W | OPAL | $e^+e^- \to D^{*+}\pi^-X$ |
| **seen** | AVERY | 90 | CLEO | $e^+e^- \to D^{*+}\pi^-X$ |
| **seen** | ALBRECHT | 89H | ARG | $e^+e^- \to D^*\pi^-X$ |

### $\Gamma(D^+\pi^-)/\Gamma(D^*(2010)^+\pi^-)$ $\Gamma_1/\Gamma_2$

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| **2.3±0.6 OUR AVERAGE** | | | | |
| 2.2±0.7±0.6 | AVERY | 94C | CLE2 | $e^+e^- \to D^{*+}\pi^-X$ |
| 2.3±0.8 | AVERY | 90 | CLEO | $e^+e^-$ |
| 3.0±1.1±1.5 | ALBRECHT | 89H | ARG | $e^+e^- \to D^*\pi^-X$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 1.9±0.5 | ABE | 04D | BELL | $B^- \to D^{(*)+}\pi^-\pi^-$ |

## $D_2^*(2460)^0$ REFERENCES


| | | | | |
|---|---|---|---|---|
| ABULENCIA | 06A | PR D73 051104 | A. Abulencia *et al.* | (CDF Collab.) |
| ABE | 04D | PR D69 112002 | K. Abe *et al.* | (BELLE Collab.) |
| LINK | 04A | PL B586 11 | J.M. Link *et al.* | (FOCUS Collab.) |
| ABREU | 98M | PL B426 231 | P. Abreu *et al.* | (DELPHI Collab.) |
| ACKERSTAFF | 97W | ZPHY C76 425 | K. Ackerstaff *et al.* | (OPAL Collab.) |
| ASRATYAN | 95 | ZPHY C68 43 | A.E. Asratyan *et al.* | (BIRM, BELG, CERN+) |
| AVERY | 94C | PL B331 236 | P. Avery *et al.* | (CLEO Collab.) |
| FRABETTI | 94B | PRL 72 324 | P.L. Frabetti *et al.* | (FNAL E687 Collab.) |
| AVERY | 90 | PR D41 774 | P. Avery, D. Besson | (CLEO Collab.) |
| ALBRECHT | 89B | PL B221 422 | H. Albrecht *et al.* | (ARGUS Collab.) JP |
| ALBRECHT | 89H | PL B232 398 | H. Albrecht *et al.* | (ARGUS Collab.) JP |
| ANJOS | 89C | PRL 62 1717 | J.C. Anjos *et al.* | (FNAL E691 Collab.) |

## OTHER RELATED PAPERS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|---|---|---|---|---|
| AUBERT | 06L | PR D74 012001 | B. Aubert *et al.* | (BABAR Collab.) |
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| SEMENOV | 99 | SPU 42 847 | S.V. Semenov | |
| | | Translated from UFN 42 937. | | |