

$D_2^*(2460)^\pm$

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

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

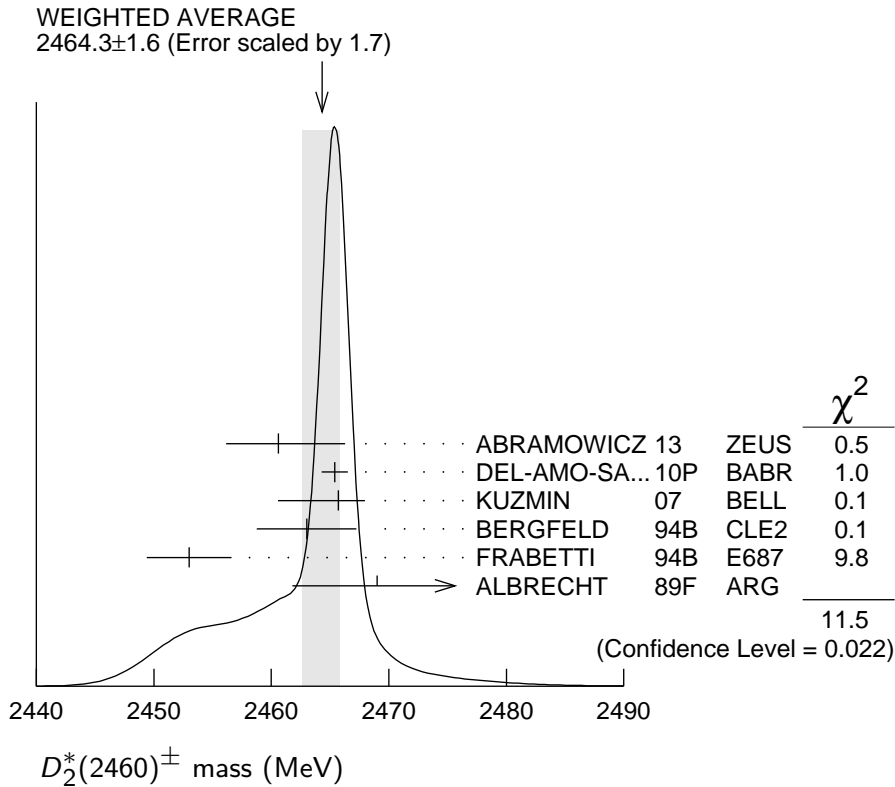
$D_2^*(2460)^\pm$ MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
2464.3±1.6 OUR AVERAGE	Error	includes scale factor of 1.7.	See the ideogram below.	
2460.6±4.4 ^{+3.6} _{-0.8}	1371	¹ ABRAMOWICZ13	ZEUS	$e^\pm p \rightarrow D^{(*)0} \pi^+ X$
2465.4±0.2±1.1	111k	² 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	$\gamma Be \rightarrow D^0 \pi^+ X$
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	³ LINK	04A FOCS	γA

¹ From the fit of the $M(D^0 \pi^+)$ distribution. The widths of the D_1^+ and D_2^{*+} are fixed to 25 MeV and 37 MeV, and A_{D_1} and A_{D_2} are fixed to the theoretical predictions of 3 and -1, respectively.

² At a fixed width of 50.5 MeV.

³ Fit includes the contribution from $D_0^*(2400)^\pm$. Not independent of the corresponding mass difference measurement, $(m_{D_2^*(2460)^\pm}) - (m_{D_2^*(2460)^0})$.



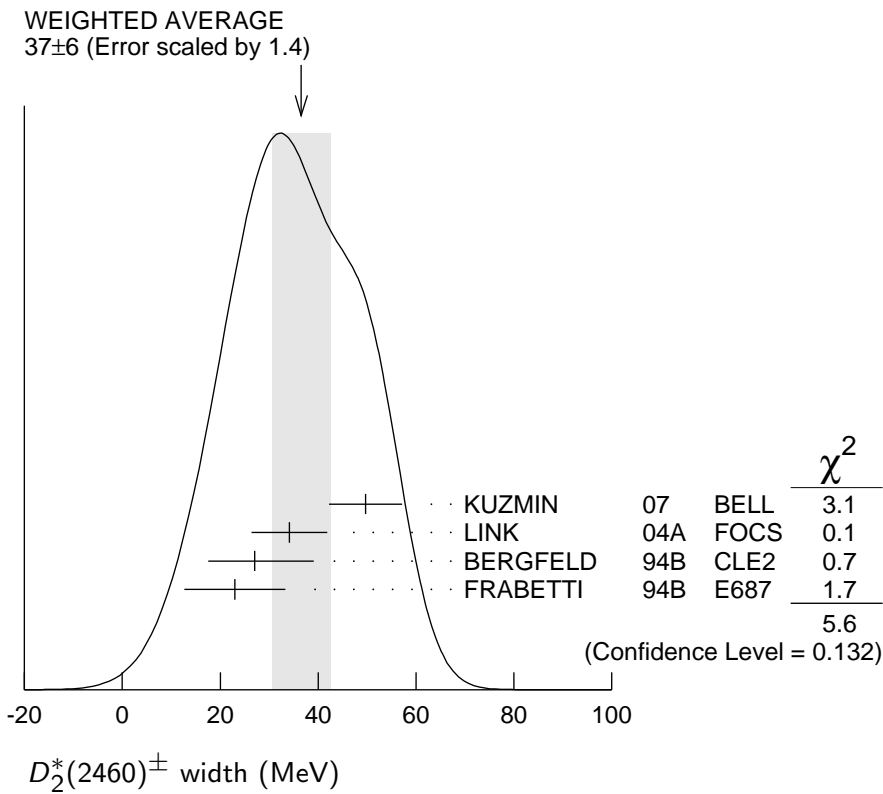
$m_{D_2^*(2460)^\pm} - m_{D_2^*(2460)^0}$

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	⁴ 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 $\rightarrow D^0\pi^+ X$

⁴ Fit 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
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
seen	ALBRECHT	89F	ARG	$e^+ e^- \rightarrow D^0 \pi^+ X$

$\Gamma(D^0 \pi^+)/\Gamma(D^{*0} \pi^+)$				Γ_1/Γ_2
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1.2 ± 0.4 OUR AVERAGE				
$1.1 \pm 0.4^{+0.3}_{-0.2}$	1371	⁵ ABRAMOWICZ13	ZEUS	$e^\pm p \rightarrow D^{(*)0} \pi^+ X$
$1.9 \pm 1.1 \pm 0.3$		BERGFELD	94B CLE2	$e^+ e^- \rightarrow \text{hadrons}$

⁵ From the fit of the $M(D^0 \pi^+)$ distribution. The widths of the D_1^+ and D_2^{*+} are fixed to 25 MeV and 37 MeV, and A_{D_1} and A_{D_2} are fixed to the theoretical predictions of 3 and -1, respectively.

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

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

$0.62 \pm 0.03 \pm 0.02$	3361	⁶ AUBERT	09Y BABR	$\bar{B}^0 \rightarrow D_2^{*+} \ell^- \nu_\ell$
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⁶ 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

ABRAMOWICZ 13	NP B866 229	H. Abramowicz <i>et al.</i>	(ZEUS Collab.)
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.)