$D_2^*(2460)^\pm$

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

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

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

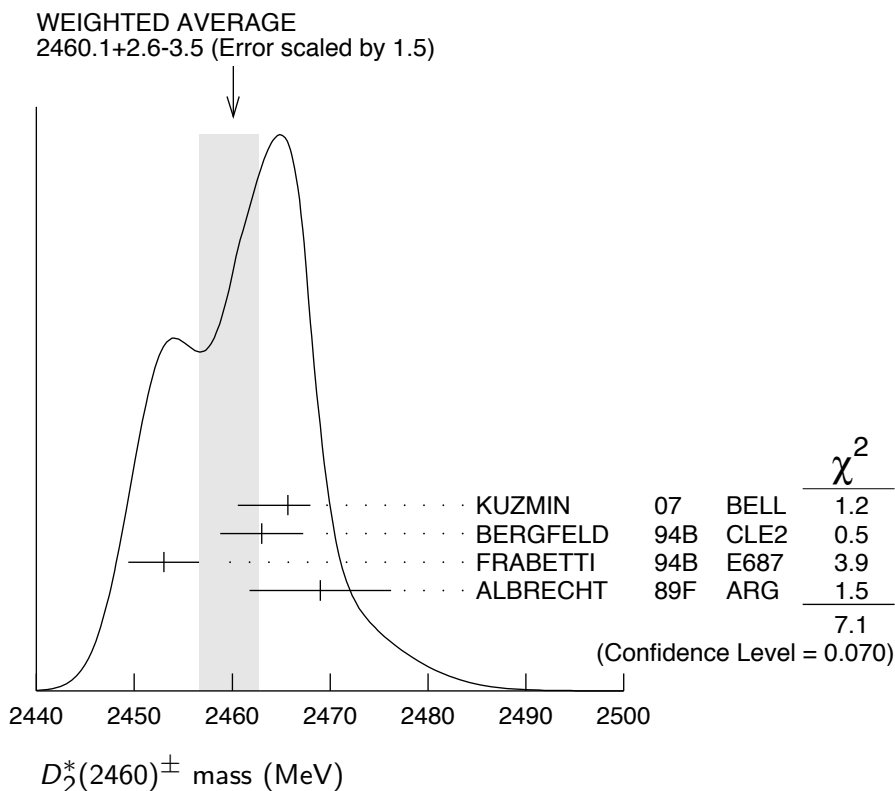| VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2460.1$^{+2.6}_{-3.5}$ OUR AVERAGE		Error includes scale factor of 1.5. See the ideogram below.			
2465.7$\pm$1.8$^{+1.4}_{-4.8}$	2909	KUZMIN	07	BELL	$e^+e^- \to$ hadrons
2463 $\pm$3 $\pm$3	310	BERGFELD	94B	CLE2	$e^+e^- \to D^0\pi^+X$
2453 $\pm$3 $\pm$2	185	FRABETTI	94B	E687	γBe $\to D^0\pi^+X$
2469 $\pm$4 $\pm$6		ALBRECHT	89F	ARG	$e^+e^- \to D^0\pi^+X$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2467.6$\pm$1.5$\pm$0.8	3.5k	[1] LINK	04A	FOCS	γ A

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

WEIGHTED AVERAGE
2460.1+2.6-3.5 (Error scaled by 1.5)

			χ^2
KUZMIN	07	BELL	1.2
BERGFELD	94B	CLE2	0.5
FRABETTI	94B	E687	3.9
ALBRECHT	89F	ARG	1.5
			7.1

(Confidence Level = 0.070)

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

2440 2450 2460 2470 2480 2490 2500

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

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	$e^+e^- \to$ hadrons
0 ±4	FRABETTI	94B	E687	γ Be $\to D\pi$X
14 ±5 ±8	ALBRECHT	89F	ARG	$e^+e^- \to D^0\pi^+$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	$e^+e^- \to$ hadrons
34.1± 6.5±4.2	3.5k	[2] LINK	04A	FOCS	γ A
27 $^{+11}_{-8}$ ±5	310	BERGFELD	94B	CLE2	$e^+e^- \to D^0\pi^+$X
23 ± 9 ±5	185	FRABETTI	94B	E687	γ Be $\to D^0\pi^+$X

[2] Fit includes the contribution from $D_0^*(2400)^\pm$.

WEIGHTED AVERAGE
37±6 (Error scaled by 1.4)

			χ^2
KUZMIN	07	BELL	3.1
LINK	04A	FOCS	0.1
BERGFELD	94B	CLE2	0.7
FRABETTI	94B	E687	1.7
			5.6

(Confidence Level = 0.132)

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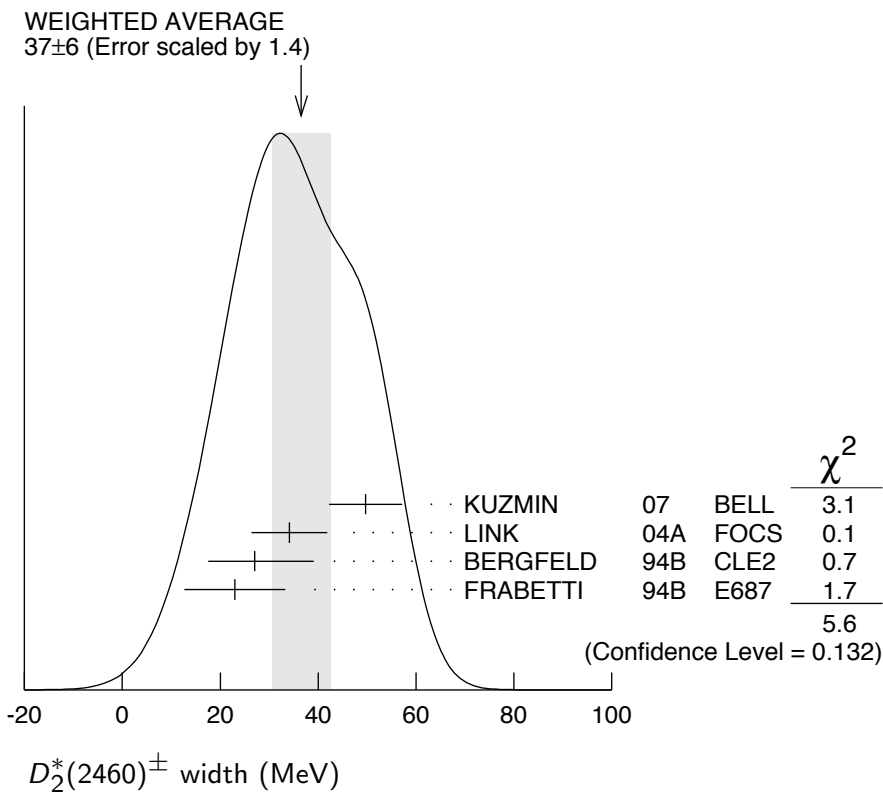
$D_2^*(2460)^\pm$ DECAY MODES

$D_2^*(2460)^-$ 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	$e^+e^- \to D^0\pi^+ X$

$\Gamma(D^0\pi^+)/\Gamma(D^{*0}\pi^+)$ Γ_1/Γ_2

VALUE	DOCUMENT ID		TECN	COMMENT
1.9±1.1±0.3	BERGFELD	94B	CLE2	$e^+e^- \to$ hadrons

$\Gamma(D^0\pi^+)/\left[\Gamma(D^0\pi^+)+\Gamma(D^{*0}\pi^+)\right]$ $\Gamma_1/(\Gamma_1+\Gamma_2)$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.62±0.03±0.02	3361	[3] AUBERT	09Y	BABR	$\overline{B}^0 \to D_2^{*+}\ell^-\nu_\ell$

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

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

AUBERT	09Y	PRL 103 051803	B. Aubert *et al.*	(BABAR Collab.)
KUZMIN	07	PR D76 012006	A. Kuzmin *et al.*	(BELLE Collab.)
LINK	04A	PL B586 11	J.M. Link *et al.*	(FOCUS Collab.)
BERGFELD	94B	PL B340 194	T. Bergfeld *et al.*	(CLEO Collab.)
FRABETTI	94B	PRL 72 324	P.L. Frabetti *et al.*	(FNAL E687 Collab.)
ALBRECHT	89B	PL B221 422	H. Albrecht *et al.*	(ARGUS Collab.)
ALBRECHT	89F	PL B231 208	H. Albrecht *et al.*	(ARGUS Collab.)