$D_2^*(2460)^\pm$

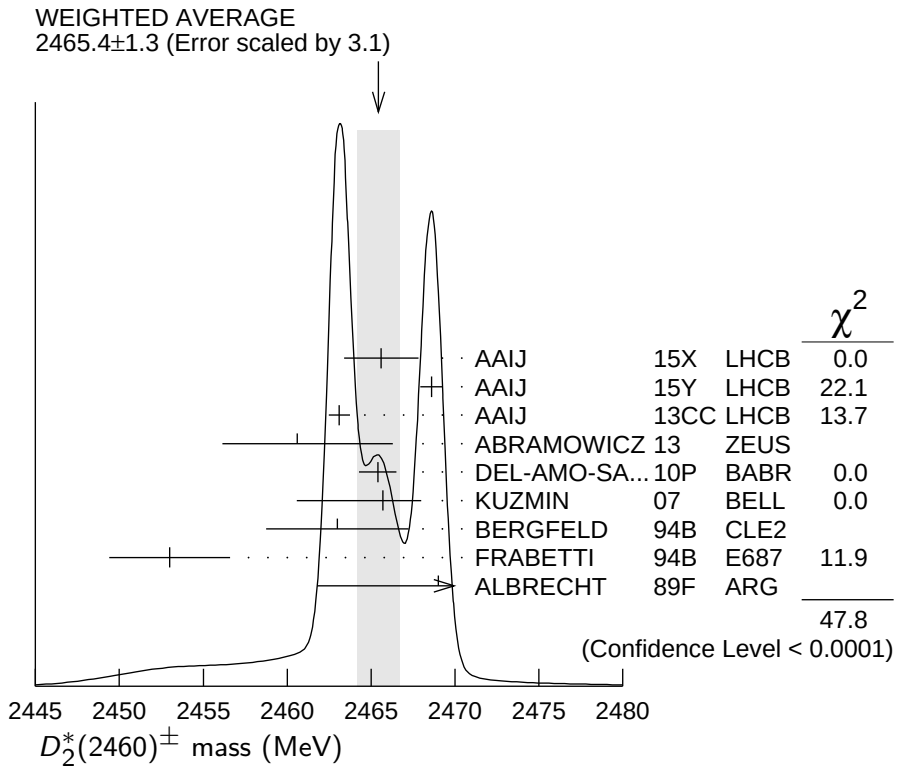
$I(J^P) = \frac{1}{2}(2^+)$

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

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

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
2465.4±1.3 OUR AVERAGE		Error includes scale factor of 3.1. See the ideogram below.			
2465.6±1.8±1.3		[1] AAIJ	15X	LHCB	$B^0 \to \overline{D}^0 K^+ \pi^-$
2468.6±0.6±0.3		[2] AAIJ	15Y	LHCB	$B^0 \to \overline{D}^0 \pi^+ \pi^-$
2463.1±0.2±0.6	342k	AAIJ	13CC	LHCB	$pp \to D^0 \pi^+ X$
$2460.6 \pm 4.4 ^{+3.6}_{-0.8}$	1371	[3] ABRAMOWICZ	13	ZEUS	$e^\pm p \to D^{(*)0} \pi^+ X$
2465.4±0.2±1.1	111k	[4] DEL-AMO-SA..	10P	BABR	$e^+ e^- \to D^0 \pi^+ X$
$2465.7 \pm 1.8 ^{+1.4}_{-4.8}$	2909	KUZMIN	07	BELL	$e^+ e^- \to$ hadrons
2463 ±3 ±3	310	BERGFELD	94B	CLE2	$e^+ e^- \to D^0 \pi^+ X$
2453 ±3 ±2	185	FRABETTI	94B	E687	γBe $\to D^0 \pi^+ X$
2469 ±4 ±6		ALBRECHT	89F	ARG	$e^+ e^- \to D^0 \pi^+ X$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2468.1±0.6±0.5		[5] AAIJ	15Y	LHCB	$B^0 \to \overline{D}^0 \pi^+ \pi^-$
2467.6±1.5±0.8	3.5k	[6] LINK	04A	FOCS	γ A

[1] From the Dalitz plot analysis including various K^* and D^{**} mesons as well as broad structures in the $K\pi$ S-wave and the $D\pi$ S- and P-waves.
[2] Modeling the $\pi^+\pi^-$ S-wave with the Isobar formalism.
[3] 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.
[4] At a fixed width of 50.5 MeV.
[5] Modeling the $\pi^+\pi^-$ S-wave with the K-matrix formalism.
[6] 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	γBe $\rightarrow D\pi$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*
46.7± 1.2 OUR AVERAGE					
46.0± 3.4±3.2		[1] AAIJ	15X	LHCB	$B^0 \rightarrow \overline{D}^0 K^+\pi^-$
47.3± 1.5±0.7		[2] AAIJ	15Y	LHCB	$B^0 \rightarrow \overline{D}^0\pi^+\pi^-$
48.6± 1.3±1.9	342k	AAIJ	13CC	LHCB	$pp \rightarrow D^0\pi^+X$
49.7± 3.8±6.4	2909	KUZMIN	07	BELL	e^+e^- → 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	γBe $\rightarrow D^0\pi^+$X
• • • We do not use the following data for averages, fits, limits, etc. • • •					
46.0± 1.4±1.8		[4] AAIJ	15Y	LHCB	$B^0 \rightarrow \overline{D}^0\pi^+\pi^-$

[1] From the Dalitz plot analysis including various K^* and D^{**} mesons as well as broad structures in the $K\pi$ S-wave and the $D\pi$ S- and P-waves.
[2] Modeling the $\pi^+\pi^-$ S-wave with the Isobar formalism.
[3] Fit includes the contribution from $D_0^*(2400)^{\pm}$.
[4] Modeling the $\pi^+\pi^-$ S-wave with the K-matrix formalism.

$D_2^*(2460)^{\pm}$ 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	EVTS	DOCUMENT ID		TECN	COMMENT
1.2±0.4 OUR AVERAGE					
$1.1\pm0.4^{+0.3}_{-0.2}$	1371	[1] ABRAMOWICZ13		ZEUS	$e^{\pm}p \to D^{(*)0}\pi^+X$
$1.9\pm1.1\pm0.3$		BERGFELD	94B	CLE2	$e^+e^- \to$ hadrons

[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.

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

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.62\pm0.03\pm0.02$	3361	[1] AUBERT	09Y	BABR	$\overline{B}^0 \to D_2^{*+}\ell^-\nu_\ell$

[1] 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

AAIJ	15X	PR D92 012012	R. Aaij et al.	(LHCb Collab.)
AAIJ	15Y	PR D92 032002	R. Aaij et al.	(LHCb Collab.)
AAIJ	13CC	JHEP 1309 145	R. Aaij et al.	(LHCb Collab.)
ABRAMOWICZ	13	NP B866 229	H. Abramowicz et al.	(ZEUS Collab.)
DEL-AMO-SA...	10P	PR D82 111101	P. del Amo Sanchez et al.	(BABAR Collab.)
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.)