

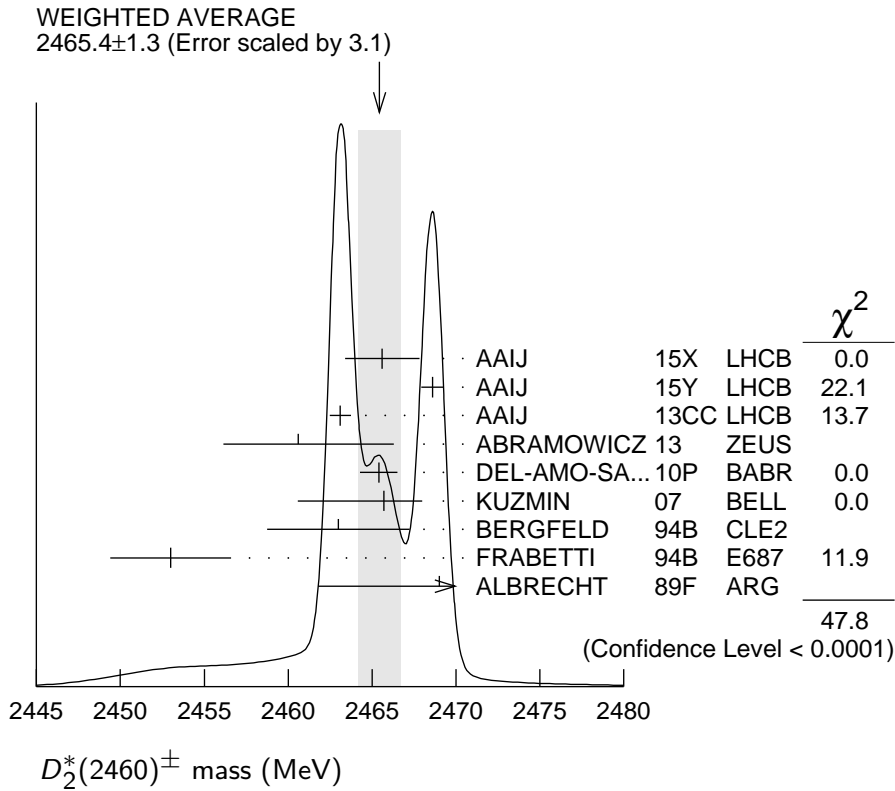
$$D_2^*(2460)^\pm$$

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

$J^P = 2^+$ 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	$B^0 \rightarrow \bar{D}^0 K^+ \pi^-$
2468.6±0.6±0.3		2 AAIJ	15Y LHCB	$B^0 \rightarrow \bar{D}^0 \pi^+ \pi^-$
2463.1±0.2±0.6	342k	AAIJ	13CC LHCB	$p p \rightarrow D^0 \pi^+ X$
2460.6±4.4 ^{+3.6} _{-0.8}	1371	3 ABRAMOWICZ13	ZEUS	$e^\pm p \rightarrow D^{(*)0} \pi^+ X$
2465.4±0.2±1.1	111k	4 DEL-AMO-SA...10P	BABR	$e^+ e^- \rightarrow D^0 \pi^+ X$
2465.7±1.8 ^{+1.4} _{-4.8}	2909	KUZMIN	07 BELL	$e^+ e^- \rightarrow \text{hadrons}$
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. ● ● ●				
2468.1±0.6±0.5		5 AAIJ	15Y LHCB	$B^0 \rightarrow \bar{D}^0 \pi^+ \pi^-$
2467.6±1.5±0.8	3.5k	6 LINK	04A FOCS	γA



- 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	γA
− 2 ± 4 ± 4	BERGFELD	94B CLE2	$e^+e^- \rightarrow$ hadrons
0 ± 4	FRABETTI	94B E687	$\gamma Be \rightarrow D\pi X$
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
46.7 ± 1.2 OUR AVERAGE				
46.0 ± 3.4 ± 3.2		¹ AAIJ	15X LHCB	$B^0 \rightarrow \bar{D}^0 K^+ \pi^-$
47.3 ± 1.5 ± 0.7		² AAIJ	15Y LHCB	$B^0 \rightarrow \bar{D}^0 \pi^+ \pi^-$
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	$e^+e^- \rightarrow$ hadrons
34.1 ± 6.5 ± 4.2	3.5k	³ LINK	04A FOCS	γA
27 $\begin{smallmatrix} +11 \\ -8 \end{smallmatrix}$ ± 5	310	BERGFELD	94B CLE2	$e^+e^- \rightarrow D^0 \pi^+ X$
23 ± 9 ± 5	185	FRABETTI	94B E687	$\gamma Be \rightarrow D^0 \pi^+ X$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
46.0 ± 1.4 ± 1.8		⁴ AAIJ	15Y LHCB	$B^0 \rightarrow \bar{D}^0 \pi^+ \pi^-$

- 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
<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±0.4 ^{+0.3} _{-0.2}	1371	¹ ABRAMOWICZ13	ZEUS	$e^\pm p \rightarrow D^{(*)0}\pi^+X$
1.9±1.1±0.3		BERGFELD	94B CLE2	$e^+e^- \rightarrow \text{hadrons}$

¹From 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±0.03±0.02	3361	¹ AUBERT	09Y BABR	$\bar{B}^0 \rightarrow D_2^{*+}\ell^-\nu_\ell$
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¹Assuming $\Gamma(\Upsilon(4S) \rightarrow B^+B^-) / \Gamma(\Upsilon(4S) \rightarrow B^0\bar{B}^0) = 1.065 \pm 0.026$ and equal partial widths for charged and neutral D_2^* mesons.

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

AAIJ	15X	PR D92 012012	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	15Y	PR D92 032002	R. Aaij <i>et al.</i>	(LHCb Collab.)
AAIJ	13CC	JHEP 1309 145	R. Aaij <i>et al.</i>	(LHCb Collab.)
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.)