

# D(2750)

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

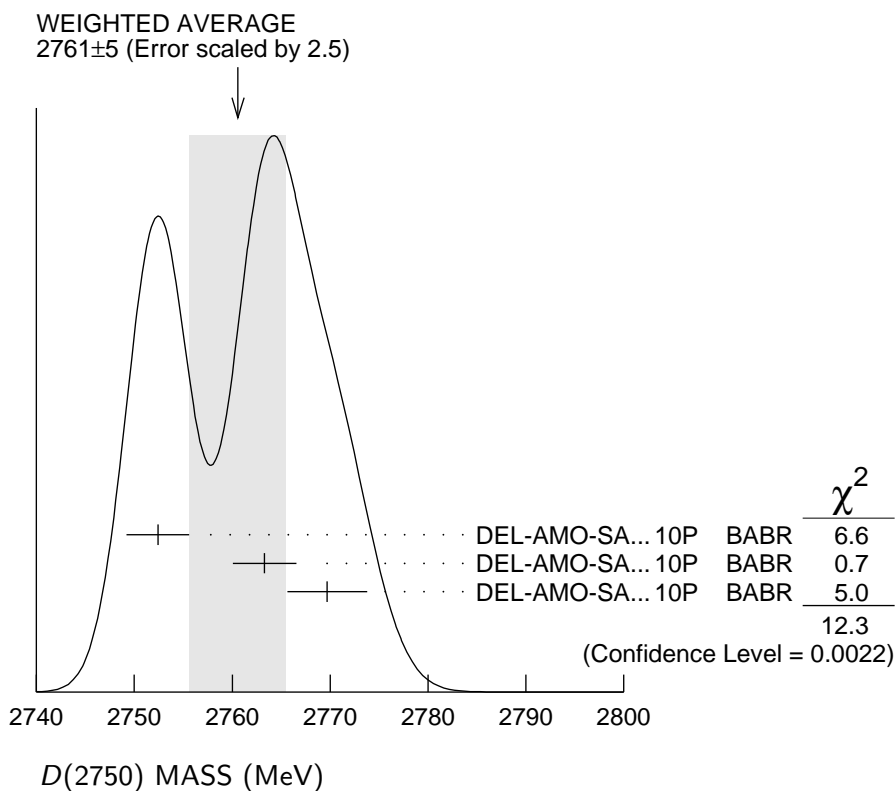
OMITTED FROM SUMMARY TABLE

## D(2750) MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
<b>2761 ±5</b>	<b>OUR AVERAGE</b>	Error includes scale factor of 2.5. See the ideogram below.			
2752.4 ± 1.7 ± 2.7	23.5k	<sup>1</sup> DEL-AMO-SA...10P	BABR	0	$e^+ e^- \rightarrow D^{*+} \pi^- X$
2763.3 ± 2.3 ± 2.3	11.3k	<sup>1</sup> DEL-AMO-SA...10P	BABR	0	$e^+ e^- \rightarrow D^+ \pi^- X$
2769.7 ± 3.8 ± 1.5	5.7k	<sup>1,2</sup> DEL-AMO-SA...10P	BABR	+	$e^+ e^- \rightarrow D^0 \pi^+ X$

<sup>1</sup> The states observed in the  $D^* \pi$  and  $D \pi$  final states are not necessarily the same.

<sup>2</sup> At a fixed width of 60.9 MeV.



## D(2750) WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>63 ±6</b>	<b>OUR AVERAGE</b>			
71 ±6 ±11	23.5k	<sup>3</sup> DEL-AMO-SA...10P	BABR	$e^+ e^- \rightarrow D^{*+} \pi^- X$
60.9 ± 5.1 ± 3.6	11.3k	<sup>3</sup> DEL-AMO-SA...10P	BABR	$e^+ e^- \rightarrow D^+ \pi^- X$

<sup>3</sup> The states observed in the  $D^* \pi$  and  $D \pi$  final states are not necessarily the same.

## ***D*(2750) DECAY MODES**

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $D\pi$	seen
$\Gamma_2$ $D^+\pi^-$	seen
$\Gamma_3$ $D^0\pi^\pm$	seen
$\Gamma_4$ $D^*\pi$	seen
$\Gamma_5$ $D^{*+}\pi^-$	seen

## ***D*(2750) BRANCHING RATIOS**

$\Gamma(D^+\pi^-)/\Gamma(D^{*+}\pi^-)$	$\Gamma_2/\Gamma_5$			
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>0.42 \pm 0.05 \pm 0.11</math></b>	34.8k	<sup>4</sup> DEL-AMO-SA...10P	BABR	$e^+e^- \rightarrow D^{(*)+}\pi^- X$

<sup>4</sup> The states observed in the  $D^*\pi$  and  $D\pi$  final states are not necessarily the same.

## ***D*(2750) POLARIZATION AMPLITUDE $A_D$**

A polarization amplitude  $A_D$  is a parameter that depends on the initial polarization of the  $D(2750)$ . For  $D(2750)$  decays the helicity angle,  $\theta_H$ , distribution varies like  $1 + A_D \cos(\theta_H)$ , where  $\theta_H$  is the angle in the  $D^*$  rest frame between the two pions emitted by the  $D(2750) \rightarrow D^*\pi$  and  $D^* \rightarrow D\pi$ .

<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$-0.33 \pm 0.28$	23.5k	<sup>5</sup> DEL-AMO-SA...10P	BABR	$e^+e^- \rightarrow D^{*+}\pi^- X$

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

<sup>5</sup> Systematic uncertainties not estimated. The states observed in the  $D^*\pi$  and  $D\pi$  final states are not necessarily the same.

## ***D*(2750) REFERENCES**

DEL-AMO-SA...10P PR D82 111101 P. del Amo Sanchez *et al.* (BABAR Collab.)