

# $D_0(2550)^0$

$$I(J^P) = \frac{1}{2}(0^-)$$

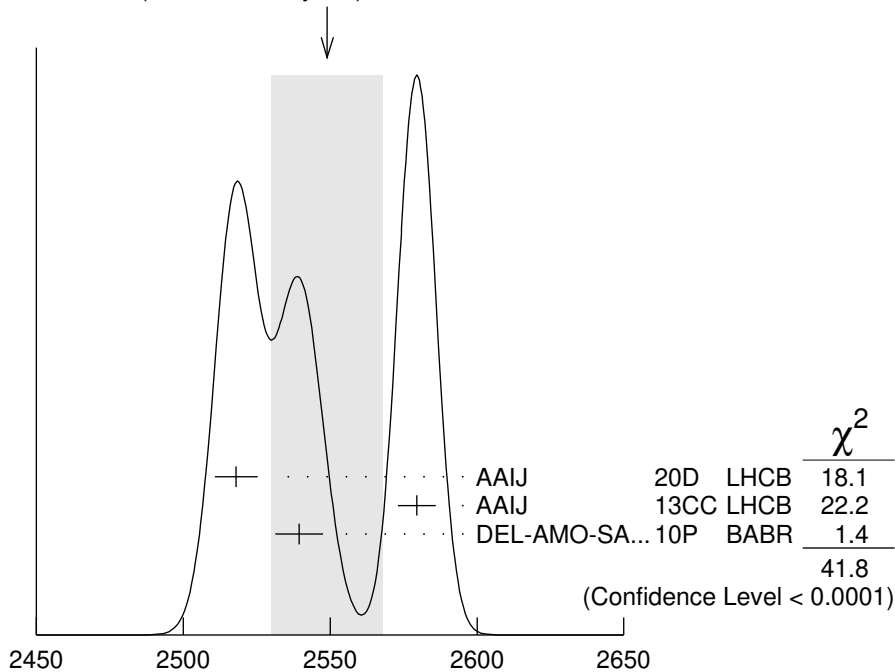
OMITTED FROM SUMMARY TABLE

$J^P = 0^-$  determined by AAIJ 20D.

## $D_0(2550)^0$ MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>2549 ±19</b> <b>OUR AVERAGE</b>		Error includes scale factor of 4.6.		See the ideogram below.
2518 ± 2 ±7	79k	<sup>1</sup> AAIJ	20D LHCb	$B^- \rightarrow D^{*+} \pi^- \pi^-$
2579.5 ± 3.4 ±5.5	60k	AAIJ	13CC LHCb	$pp \rightarrow D^{*+} \pi^- X$
2539.4 ± 4.5 ±6.8	34k	DEL-AMO-SA...10P	BABR	$e^+ e^- \rightarrow D^{*+} \pi^- X$

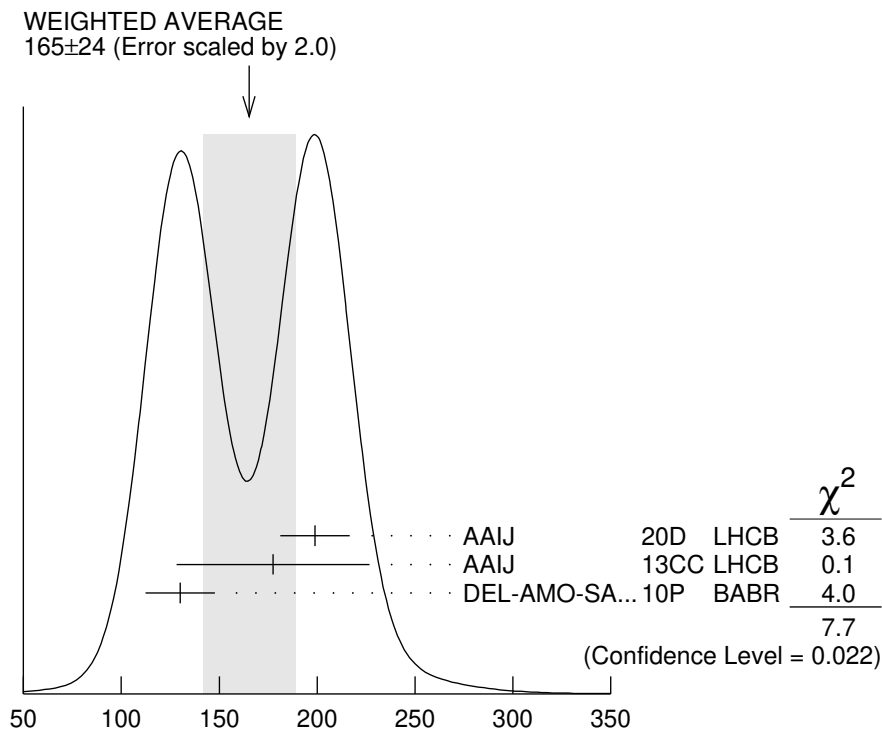
WEIGHTED AVERAGE  
2549±19 (Error scaled by 4.6)



<sup>1</sup> From a full four-body amplitude analysis of the  $B^- \rightarrow D^{*+} \pi^- \pi^-$  decay.  
 $D_0(2550)^0$  MASS (MeV)

## $D_0(2550)^0$ WIDTH

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>165 ±24</b> <b>OUR AVERAGE</b>		Error includes scale factor of 2.0.		See the ideogram below.
199 ± 5 ±17	79k	<sup>1</sup> AAIJ	20D LHCb	$B^- \rightarrow D^{*+} \pi^- \pi^-$
177.5 ±17.8 ±46.0	60k	AAIJ	13CC LHCb	$pp \rightarrow D^{*+} \pi^- X$
130 ±12 ±13	34k	DEL-AMO-SA...10P	BABR	$e^+ e^- \rightarrow D^{*+} \pi^- X$



<sup>1</sup>From a full four-body amplitude analysis of the  $B^- \rightarrow D^{*+} \pi^- \pi^-$  decay.  
 $D_0(2550)^0$  WIDTH (MeV)

### $D_0(2550)^0$ DECAY MODES

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1$ $D^{*+} \pi^-$	seen

### $D_0(2550)^0$ POLARIZATION AMPLITUDE $A_{D_J}$

A polarization amplitude  $A_{D_J}$  is a parameter that depends on the initial polarization of the  $D_J$ . For  $D_J$  decays the helicity angle,  $\theta_H$ , distribution varies like  $1 + A_{D_J} \cos^2(\theta_H)$ , where  $\theta_H$  is the angle in the  $D_J$  rest frame between the two pions emitted in the  $D_J \rightarrow D^* \pi$  and  $D^* \rightarrow D \pi$  decays.

VALUE      EVTS      DOCUMENT ID      TECN      COMMENT

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

$4.2 \pm 1.3$       60k      <sup>1</sup> AAIJ      13CC LHCb       $pp \rightarrow D^{*+} \pi^- X$

<sup>1</sup>Systematic uncertainty not estimated.

### $D_0(2550)^0$ REFERENCES

AAIJ	20D	PR D101 032005	R. Aaij <i>et al.</i>	(LHCb Collab.) JP
AAIJ	13CC	JHEP 1309 145	R. Aaij <i>et al.</i>	(LHCb Collab.)
DEL-AMO-SA...	10P	PR D82 111101	P. del Amo Sanchez <i>et al.</i>	(BABAR Collab.)