

$D_2(2740)^0$

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

OMITTED FROM SUMMARY TABLE
was $D(2740)^0$
 $J^P = 2^-$ determined by (AAIJ 20D).

$D_2(2740)^0$ MASS

VALUE (MeV)	EVTs	DOCUMENT ID	TECN	COMMENT
2747 ±6 OUR AVERAGE				
2751 ±3 ±7	79k	¹ AAIJ	20D LHCb	$B^- \rightarrow D^{*+} \pi^- \pi^-$
2737.0±3.5±11.2	7.7k	AAIJ	13CC LHCb	$pp \rightarrow D^{*+} \pi^- X$

¹From a full four-body amplitude analysis of the $B^- \rightarrow D^{*+} \pi^- \pi^-$ decay.

$D_2(2740)^0$ WIDTH

VALUE (MeV)	EVTs	DOCUMENT ID	TECN	COMMENT
88 ±19 OUR AVERAGE				
102 ±6 ±26	79k	¹ AAIJ	20D LHCb	$B^- \rightarrow D^{*+} \pi^- \pi^-$
73.2±13.4±25.0	7.7k	AAIJ	13CC LHCb	$pp \rightarrow D^{*+} \pi^- X$

¹From a full four-body amplitude analysis of the $B^- \rightarrow D^{*+} \pi^- \pi^-$ decay.

$D_2(2740)^0$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad D^{*+} \pi^-$	seen

$D_2(2740)^0$ 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, θ_H , distribution varies like $1 + A_{D_J} \cos^2(\theta_H)$, where θ_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. • • •				
3.1±2.2	7.7k	¹ AAIJ	13CC LHCb	$pp \rightarrow D^{*+} \pi^- X$

¹Systematic uncertainty not estimated.

$D_2(2740)^0$ 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.)