

NODE=M228

$D_2(2740)^0$

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

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

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$D_2(2740)^0$ MASS

NODE=M228M

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	$pp \rightarrow D^{*+} \pi^- X$

NODE=M228M

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

NODE=M228M;LINKAGE=A

$D_2(2740)^0$ WIDTH

NODE=M228W

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	$pp \rightarrow D^{*+} \pi^- X$

NODE=M228W

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

NODE=M228W;LINKAGE=A

$D_2(2740)^0$ DECAY MODES

NODE=M228215;NODE=M228

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

DESIG=1;OUR EVAL;→ UNCHECKED ←

$D_2(2740)^0$ POLARIZATION AMPLITUDE A_{D_J}

NODE=M228PAM

A polarization amplitude A_{D_J} is a parameter that depends on the initial polarization of the D_J . For $\bar{D}_J$ 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.

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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	$pp \rightarrow D^{*+} \pi^- X$

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¹ Systematic uncertainty not estimated.

NODE=M228PAM;LINKAGE=A

$D_2(2740)^0$ REFERENCES

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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.)

REFID=60253
REFID=55581