

$D(3000)^0$

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

OMITTED FROM SUMMARY TABLE

Both natural- and unnatural-parity components observed depending on the decay mode (AAIJ 13CC).

 $D(3000)^0$ MASS

<u>VALUE (MeV)</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. ● ● ●				
2971.8 ± 8.7	9.5k	^{1,2} AAIJ	13CC LHCB	$pp \rightarrow D^{*+} \pi^- X$
3008.1 ± 4.0	17.6k	^{1,3} AAIJ	13CC LHCB	$pp \rightarrow D^+ \pi^- X$

¹ Systematic uncertainty not estimated.² Unnatural parity preferred.³ Natural parity state. A state $D(3000)^+$ is possibly seen in $D^0 \pi^+$ final state. **$D(3000)^0$ WIDTH**

<u>VALUE (MeV)</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. ● ● ●				
188.1 ± 44.8	9.5k	^{4,5} AAIJ	13CC LHCB	$pp \rightarrow D^{*+} \pi^- X$
110.5 ± 11.5	17.6k	^{4,6} AAIJ	13CC LHCB	$pp \rightarrow D^+ \pi^- X$

⁴ Systematic uncertainty not estimated.⁵ Unnatural parity preferred.⁶ Natural parity state. A state $D(3000)^+$ is possibly seen in $D^0 \pi^+$ final state. **$D(3000)^0$ DECAY MODES**

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

 $D(3000)^0$ 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.

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● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
1.5 ± 0.9	9.5k	⁷ AAIJ	13CC LHCB	$pp \rightarrow D^{*+} \pi^- X$

⁷ Systematic uncertainty not estimated. **$D(3000)^0$ REFERENCES**

AAIJ	13CC JHEP 1309 145	R. Aaij <i>et al.</i>	(LHCb Collab.)
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