

$$\Omega_c(3065)^0$$

$$I(J^P) = ?(?^?) \quad \text{Status: } ***$$

AAIJ 21AC rejects $J = 1/2$ hypothesis at 3.6σ .

$\Omega_c(3065)^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
3065.58 ± 0.21 OUR AVERAGE				
3065.63 ± 0.06 ± 0.06 ± 0.23	15k	¹ AAIJ	23AS LHCB	pp at 7, 8, 13 TeV
3065.9 ± 0.4 ± 0.4 $\begin{smallmatrix} +0.19 \\ -0.22 \end{smallmatrix}$	51	² AAIJ	21AC LHCB	pp at 7, 8, 13 TeV
3064.9 ± 0.6 ± 0.2	82	YELTON	18B BELL	e^+e^- at $\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3065.6 ± 0.1 ± 0.3	1.74k	³ AAIJ	17AH LHCB	pp at 7, 8, 13 TeV

¹ The third uncertainty is due to the uncertainty in the Ξ_c^+ mass, taken to be the PDG 22 fit result 2467.71 ± 0.23 MeV.

² Measured via $\Omega_b^- \rightarrow \Omega_c^{*0} \pi^- \rightarrow \Xi_c^+ K^- \pi^-$. The third uncertainty is due to the uncertainty in the Ξ_c^+ mass.

³ See AAIJ 23AS.

$\Omega_c(3065)^0$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
3.4 $\begin{smallmatrix} +0.7 \\ -0.8 \end{smallmatrix}$ OUR AVERAGE Error includes scale factor of 1.7.				
3.79 ± 0.20 $\begin{smallmatrix} +0.38 \\ -0.47 \end{smallmatrix}$	15k	AAIJ	23AS LHCB	pp at 7, 8, 13 TeV
1.7 ± 1.0 ± 0.5	51	AAIJ	21AC LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3.5 ± 0.4 ± 0.2	1.74k	¹ AAIJ	17AH LHCB	pp at 7, 8, 13 TeV

¹ See AAIJ 23AS.

$\Omega_c(3065)^0$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad \Xi_c^+ K^-$	seen

$\Omega_c(3065)^0$ BRANCHING RATIOS

$\Gamma(\Xi_c^+ K^-)/\Gamma_{\text{total}}$	Γ_1/Γ			
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
seen				
seen	15k	AAIJ	23AS LHCB	pp at 7, 8, 13 TeV
seen	51	¹ AAIJ	21AC LHCB	pp at 7, 8, 13 TeV
seen	82	YELTON	18B BELL	e^+e^- at $\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
seen	1.74k	^{2,3} AAIJ	17AH LHCB	pp at 7, 8, 13 TeV

¹ AAIJ 21AC report a significance of 11.9 σ .

² AAIJ 17AH report a significance of 23.9 σ .

³ See AAIJ 23AS.

$\Omega_c(3065)^0$ REFERENCES

AAIJ	23AS	PRL 131 131902	R. Aaij <i>et al.</i>	(LHCb Collab.)
PDG	22	PTEP 2022 083C01	R.L. Workman <i>et al.</i>	(PDG Collab.)
AAIJ	21AC	PR D104 L091102	R. Aaij <i>et al.</i>	(LHCb Collab.)
YELTON	18B	PR D97 051102	J. Yelton <i>et al.</i>	(BELLE Collab.)
AAIJ	17AH	PRL 118 182001	R. Aaij <i>et al.</i>	(LHCb Collab.)
