

$$\Omega_c(3050)^0$$

$$I(J^P) = ?(??)$$
 Status: ***

AAIJ 21AC rejects $J = 1/2$ hypothesis at $2.2\,\sigma$.

$\Omega_c(3050)^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
3050.17±0.19 OUR AVERAGE				
3050.18±0.04 ^{+0.06} _{−0.07} ±0.23	8.5k	¹ AAIJ	23AS LHCB	pp at 7, 8, 13 TeV
3050.1 ±0.3 ±0.2 ^{+0.19} _{−0.22}	33	² AAIJ	21AC LHCB	pp at 7, 8, 13 TeV
3050.2 ±0.4 ±0.2	28	YELTON	18B BELL	e^+e^- at $\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
3050.2 ±0.1 ±0.1	970	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.				

$\Omega_c(3050)^0$ WIDTH

VALUE (MeV)	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
<1.8	95	8.5k	¹ AAIJ	23AS LHCB	pp at 7, 8, 13 TeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.6	95	33	AAIJ	21AC LHCB	pp at 7, 8, 13 TeV
<1.2	95	970	² AAIJ	17AH LHCB	pp at 7, 8, 13 TeV
¹ AAIJ 23AS also report a central value of $0.67 \pm 0.17^{+0.64}_{-0.72}$ MeV.					
² See AAIJ 23AS.					

$\Omega_c(3050)^0$ DECAY MODES

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

$\Omega_c(3050)^0$ BRANCHING RATIOS

$\Gamma(\Xi_c^+ K^-)/\Gamma_{\text{total}}$					Γ_1/Γ
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	
seen	8.5k	AAIJ	23AS LHCB	pp at 7, 8, 13 TeV	
seen	33	¹ AAIJ	21AC LHCB	pp at 7, 8, 13 TeV	
seen	28	² YELTON	18B BELL	e^+e^- at $\Upsilon(4S)$	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
seen	970	^{3,4} AAIJ	17AH LHCB	pp at 7, 8, 13 TeV	

¹AAIJ 21AC report a significance of 9.9 σ .
²YELTON 18B report a significance of 4.6 σ
³AAIJ 17AH report a significance of 20.4 σ .
⁴See AAIJ 23AS.

$\Omega_c(3050)^0$ 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.)
