



$$I(J^P) = 0(\frac{1}{2}^+) \text{ Status: } ***$$

The quantum numbers have not been measured, but are simply assigned in accord with the quark model, in which the Ω_c^0 is the *ssc* ground state.

Ω_c^0 MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
2697.5 ± 2.6 OUR AVERAGE		Error includes scale factor of 1.2.		
2694.6 ± 2.6 ± 1.9	40	¹ CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
2699.9 ± 1.5 ± 2.5	42	² FRABETTI	94H E687	γ Be, $\bar{E}_\gamma = 221$ GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2705.9 ± 3.3 ± 2.0	10	³ FRABETTI	93 E687	γ Be, $\bar{E}_\gamma = 221$ GeV
2719.0 ± 7.0 ± 2.5	11	⁴ ALBRECHT	92H ARG	$e^+ e^- \approx 10.6$ GeV
2740 ± 20	3	BIAGI	85B SPEC	Σ^- Be 135 GeV/c

¹ CRONIN-HENNESSY 01 sees 40.4 ± 9.0 events in a sum over five channels.

² FRABETTI 94H claims a signal of 42.5 ± 8.8 $\Sigma^+ K^- K^- \pi^+$ events. The background is about 24 events.

³ FRABETTI 93 claims a signal of 10.3 ± 3.9 $\Omega^- \pi^+$ events above a background of 5.8 events.

⁴ ALBRECHT 92H claims a signal of 11.5 ± 4.3 $\Xi^- K^- \pi^+ \pi^+$ events. The background is about 5 events.

Ω_c^0 MEAN LIFE

VALUE (10^{-15} s)	EVTS	DOCUMENT ID	TECN	COMMENT
69 ± 12 OUR AVERAGE				
72 ± 11 ± 11	64	LINK	03C FOCS	$\Omega^- \pi^+, \Xi^- K^- \pi^+ \pi^+$
55 ⁺¹³⁺¹⁸ ₋₁₁₋₂₃	86	ADAMOVICH	95B WA89	$\Omega^- \pi^- \pi^+ \pi^+, \Xi^- K^- \pi^+ \pi^+$
86 ⁺²⁷ ₋₂₀ ± 28	25	FRABETTI	95D E687	$\Sigma^+ K^- K^- \pi^+$

Ω_c^0 DECAY MODES

No absolute branching fractions have been measured.

Mode	Fraction (Γ_j/Γ)
Γ_1 $\Sigma^+ K^- K^- \pi^+$	seen
Γ_2 $\Xi^0 K^- \pi^+$	seen
Γ_3 $\Xi^- K^- \pi^+ \pi^+$	seen
Γ_4 $\Omega^- e^+ \nu_e$	seen
Γ_5 $\Omega^- \pi^+$	seen
Γ_6 $\Omega^- \pi^+ \pi^0$	seen
Γ_7 $\Omega^- \pi^- \pi^+ \pi^+$	seen

Ω_c^0 BRANCHING RATIOS

$\Gamma(\Sigma^+ K^- K^- \pi^+)/\Gamma_{\text{total}}$			Γ_1/Γ		
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
seen	42	FRABETTI	94H E687	γ Be, $\bar{E}_\gamma = 221$ GeV	

$\Gamma(\Sigma^+ K^- K^- \pi^+)/\Gamma(\Omega^- \pi^+)$			Γ_1/Γ_5		
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

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<4.8	90	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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$\Gamma(\Xi^0 K^- \pi^+)/\Gamma(\Omega^- \pi^+)$			Γ_2/Γ_5		
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

4.0±2.5±0.4	9	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma_{\text{total}}$			Γ_3/Γ		
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

seen	11	ALBRECHT	92H ARG	$e^+ e^- \approx 10.6$ GeV
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seen	3	BIAGI	85B SPEC	Σ^- Be 135 GeV/c
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$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$			Γ_3/Γ_5		
<u>VALUE</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>

1.6±1.1±0.4	7	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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• • • We do not use the following data for averages, fits, limits, etc. • • •

<2.8	90	FRABETTI	93 E687	γ Be, $\bar{E}_\gamma = 221$ GeV
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$\Gamma(\Omega^- \pi^+)/\Gamma(\Omega^- e^+ \nu_e)$			Γ_5/Γ_4		
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

0.41±0.19±0.04	11	AMMAR	02 CLE2	$e^+ e^- \approx \gamma(4S)$
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$\Gamma(\Omega^- \pi^+)/\Gamma_{\text{total}}$			Γ_5/Γ		
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

seen	13	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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seen	10	FRABETTI	93 E687	γ Be, $\bar{E}_\gamma = 221$ GeV
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$\Gamma(\Omega^- \pi^+ \pi^0)/\Gamma(\Omega^- \pi^+)$			Γ_6/Γ_5		
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

4.2±2.2±0.9	12	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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$\Gamma(\Omega^- \pi^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$			Γ_7/Γ_5		
<u>VALUE</u>	<u>CL%</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

seen		ADAMOVICH	95B WA89	Σ^- 340 GeV
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• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.56	90	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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<1.6	90	FRABETTI	93 E687	γ Be, $\bar{E}_\gamma = 221$ GeV
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Ω_c^0 REFERENCES

LINK	03C	PL B561 41	J.M. Link <i>et al.</i>	(FNAL FOCUS Collab.)
AMMAR	02	PRL 89 171803	R. Ammar <i>et al.</i>	(CLEO Collab.)
CRONIN-HEN...	01	PRL 86 3730	D. Cronin-Hennessy <i>et al.</i>	(CLEO Collab.)
ADAMOVICH	95B	PL B358 151	M.I. Adamovich <i>et al.</i>	(CERN WA89 Collab.)
FRABETTI	95D	PL B357 678	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)
FRABETTI	94H	PL B338 106	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)
FRABETTI	93	PL B300 190	P.L. Frabetti <i>et al.</i>	(FNAL E687 Collab.)
ALBRECHT	92H	PL B288 367	H. Albrecht <i>et al.</i>	(ARGUS Collab.)
BIAGI	85B	ZPHY C28 175	S.F. Biagi <i>et al.</i>	(CERN WA62 Collab.)
