



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

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

### $\Omega_c^0$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>2697.5 ± 2.6 OUR FIT</b>				Error includes scale factor of 1.2.
<b>2697.5 ± 2.6 OUR AVERAGE</b>				Error includes scale factor of 1.2.
2694.6 ± 2.6 ± 1.9	40	<sup>1</sup> CRONIN-HEN..01	CLE2	$e^+e^- \approx 10.6$ GeV
2699.9 ± 1.5 ± 2.5	42	<sup>2</sup> FRABETTI 94H	E687	$\gamma$ 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	<sup>3</sup> FRABETTI 93	E687	$\gamma$ Be, $\bar{E}_\gamma = 221$ GeV
2719.0 ± 7.0 ± 2.5	11	<sup>4</sup> ALBRECHT 92H	ARG	$e^+e^- \approx 10.6$ GeV
2740 ± 20	3	BIAGI 85B	SPEC	$\Sigma^-$ Be 135 GeV/c
<sup>1</sup> CRONIN-HENNESSY 01 sees $40.4 \pm 9.0$ events in a sum over five channels.				
<sup>2</sup> FRABETTI 94H claims a signal of $42.5 \pm 8.8$ $\Sigma^+ K^- K^- \pi^+$ events. The background is about 24 events.				
<sup>3</sup> FRABETTI 93 claims a signal of $10.3 \pm 3.9$ $\Omega^- \pi^+$ events above a background of 5.8 events.				
<sup>4</sup> ALBRECHT 92H claims a signal of $11.5 \pm 4.3$ $\Xi^- K^- \pi^+ \pi^+$ events. The background is about 5 events.				

### $\Omega_c^0$ MEAN LIFE

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

### $\Omega_c^0$ DECAY MODES

No absolute branching fractions have been measured.

Mode	Fraction ( $\Gamma_j/\Gamma$ )
$\Gamma_1$ $\Sigma^+ K^- K^- \pi^+$	seen
$\Gamma_2$ $\Xi^0 K^- \pi^+$	seen
$\Gamma_3$ $\Xi^- K^- \pi^+ \pi^+$	seen
$\Gamma_4$ $\Omega^- e^+ \nu_e$	seen
$\Gamma_5$ $\Omega^- \pi^+$	seen
$\Gamma_6$ $\Omega^- \pi^+ \pi^0$	seen
$\Gamma_7$ $\Omega^- \pi^- \pi^+ \pi^+$	seen

## $\Omega_c^0$ BRANCHING RATIOS

$\Gamma(\Sigma^+ K^- K^- \pi^+)/\Gamma_{\text{total}}$					$\Gamma_1/\Gamma$
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
<b>seen</b>	42	FRABETTI	94H E687	$\gamma$ Be, $\bar{E}_\gamma = 221$ GeV	

$\Gamma(\Sigma^+ K^- K^- \pi^+)/\Gamma(\Omega^- \pi^+)$					$\Gamma_1/\Gamma_5$
<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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$\Gamma(\Xi^0 K^- \pi^+)/\Gamma(\Omega^- \pi^+)$					$\Gamma_2/\Gamma_5$
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

<b>4.0±2.5±0.4</b>	9	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma_{\text{total}}$					$\Gamma_3/\Gamma$
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

<b>seen</b>	11	ALBRECHT	92H ARG	$e^+ e^- \approx 10.6$ GeV
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<b>seen</b>	3	BIAGI	85B SPEC	$\Sigma^-$ Be 135 GeV/c
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$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$					$\Gamma_3/\Gamma_5$
<u>VALUE</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>

<b>0.46±0.13±0.03</b>	45 ± 12	AUBERT	07AH BABR	$e^+ e^- \approx \Upsilon(4S)$
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$1.6 \pm 1.1 \pm 0.4$	7	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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$<2.8$	90	FRABETTI	93 E687	$\gamma$ Be, $\bar{E}_\gamma = 221$ GeV
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$\Gamma(\Omega^- \pi^+)/\Gamma(\Omega^- e^+ \nu_e)$					$\Gamma_5/\Gamma_4$
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

<b>0.41±0.19±0.04</b>	11	AMMAR	02 CLE2	$e^+ e^- \approx \Upsilon(4S)$
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$\Gamma(\Omega^- \pi^+)/\Gamma_{\text{total}}$					$\Gamma_5/\Gamma$
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

<b>seen</b>	13	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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<b>seen</b>	10	FRABETTI	93 E687	$\gamma$ Be, $\bar{E}_\gamma = 221$ GeV
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$\Gamma(\Omega^- \pi^+ \pi^0)/\Gamma(\Omega^- \pi^+)$					$\Gamma_6/\Gamma_5$
<u>VALUE</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	

<b>1.27±0.31±0.11</b>	64 ± 15	AUBERT	07AH BABR	$e^+ e^- \approx \Upsilon(4S)$
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• • • We do not use the following data for averages, fits, limits, etc. • • •

$4.2 \pm 2.2 \pm 0.9$	12	CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6$ GeV
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$\Gamma(\Omega^- \pi^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$				$\Gamma_7/\Gamma_5$	
<u>VALUE</u>	<u>CL%</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>0.28 ± 0.09 ± 0.01</b>		25 ± 8	AUBERT	07AH BABR	$e^+ e^- \approx \Upsilon(4S)$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
<0.56 seen	90		CRONIN-HEN..01	CLE2	$e^+ e^- \approx 10.6 \text{ GeV}$
			ADAMOVICH 95B	WA89	$\Sigma^- 340 \text{ GeV}$
<1.6	90		FRABETTI 93	E687	$\gamma \text{Be}, \bar{E}_\gamma = 221 \text{ GeV}$

## $\Omega_c^0$ REFERENCES

AUBERT	07AH	PRL 99 062001	B. Aubert <i>et al.</i>	(BABAR Collab.)
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.)