Ω_c^0

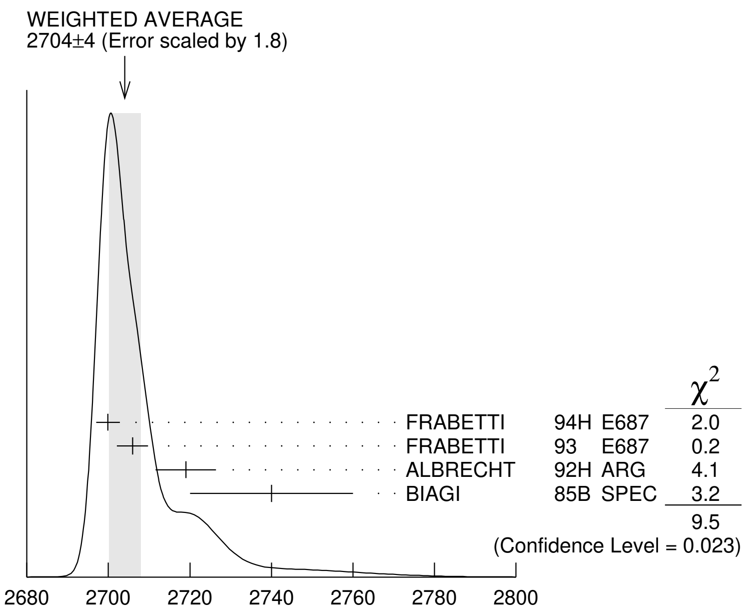
$I(J^P) = 0(\frac{1}{2}^+)$ Status: ∗∗∗

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*
2704 ± 4 OUR AVERAGE		Error includes scale factor of 1.8. See the ideogram below.		
2699.9 ± 1.5 ± 2.5	42	[1] FRABETTI 94H	E687	γBe, $\overline{E}_\gamma$= 221 GeV
2705.9 ± 3.3 ± 2.0	10	[2] FRABETTI 93	E687	γBe, $\overline{E}_\gamma$= 221 GeV
2719.0 ± 7.0 ± 2.5	11	[3] ALBRECHT 92H	ARG	$e^+ e^- \approx$ 10.6 GeV
2740 ± 20	3	BIAGI 85B	SPEC	Σ^- Be 135 GeV/c

[1] FRABETTI 94H claims a signal of 42.5 ± 8.8 $\Sigma^+ K^- K^- \pi^+$ events. The background is about 24 events.
[2] FRABETTI 93 claims a signal of 10.3 ± 3.9 $\Omega^- \pi^+$ events above a background of 5.8 events.
[3] ALBRECHT 92H claims a signal of 11.5 ± 4.3 $\Xi^- K^- \pi^+ \pi^+$ events. The background is about 5 events.



Ω_c^0 mass (MeV)

Ω_c^0 MEAN LIFE

VALUE (10^{-12} s)	EVTS	DOCUMENT ID		TECN	COMMENT
0.064±0.020 OUR AVERAGE					
$0.055^{+0.013}_{-0.011}{}^{+0.018}_{-0.023}$	86	ADAMOVICH	95B	WA89	$\Omega^- \pi^- \pi^+ \pi^+$, $\Xi^- K^- \pi^+ \pi^+$
$0.086^{+0.027}_{-0.020} \pm 0.028$	25	FRABETTI	95D	E687	$\Sigma^+ K^- K^- \pi^+$

Ω_c^0 DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Sigma^+ K^- K^- \pi^+$	seen
Γ_2	$\Xi^- K^- \pi^+ \pi^+$	seen
Γ_3	$\Omega^- \pi^+$	seen
Γ_4	$\Omega^- \pi^- \pi^+ \pi^+$	seen

Ω_c^0 BRANCHING RATIOS

$\Gamma(\Sigma^+ K^- K^- \pi^+)/\Gamma_{total}$ — Γ_1/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	42	FRABETTI	94H	E687	γBe, $\overline{E}_\gamma$= 221 GeV

$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma_{total}$ — Γ_2/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	11	ALBRECHT	92H	ARG	$e^+ e^- \approx 10.6$ GeV
seen	3	BIAGI	85B	SPEC	Σ^- Be 135 GeV/c

$\Gamma(\Omega^- \pi^+)/\Gamma_{total}$ — Γ_3/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
seen	10	FRABETTI	93	E687	γBe, $\overline{E}_\gamma$= 221 GeV

$\Gamma(\Xi^- K^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$ — Γ_2/Γ_3

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2.8	90	FRABETTI	93	E687	γBe, $\overline{E}_\gamma$= 221 GeV

$\Gamma(\Omega^- \pi^- \pi^+ \pi^+)/\Gamma(\Omega^- \pi^+)$ — Γ_4/Γ_3

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
seen		ADAMOVICH	95B	WA89	Σ^- 340 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.6	90	FRABETTI	93	E687	γBe, $\overline{E}_\gamma$= 221 GeV

Ω_c^0 REFERENCES

ADAMOVICH	95B	PL B358 151	M.I. Adamovich *et al.*	(CERN WA89 Collab.)
FRABETTI	95D	PL B357 678	P.L. Frabetti *et al.*	(FNAL E687 Collab.)
FRABETTI	94H	PL B338 106	P.L. Frabetti *et al.*	(FNAL E687 Collab.)
FRABETTI	93	PL B300 190	P.L. Frabetti *et al.*	(FNAL E687 Collab.)
ALBRECHT	92H	PL B288 367	H. Albrecht *et al.*	(ARGUS Collab.)
BIAGI	85B	ZPHY C28 175	S.F. Biagi *et al.*	(CERN WA62 Collab.)