Ω BARYONS
($S = -3$, $I = 0$)

$\Omega^- = sss$

NODE=BXXX035

Ω^-

$I(J^P) = 0(\frac{3}{2}^+)$

NODE=S024

$J^P = \frac{3}{2}^+$ is the quark-model prediction; and $J = 3/2$ is fairly well established.

Mass $m = 1672.45 \pm 0.29$ MeV
NODE=S024M;DTYPE=M

$(m_{\Omega^-} - m_{\overline{\Omega}^+}) / m_{\Omega^-} = (-1 \pm 8) \times 10^{-5}$
NODE=S024DMM;DTYPE=D

Mean life $\tau = (0.821 \pm 0.011) \times 10^{-10}$ s
NODE=S024T;DTYPE=T

$c\tau = 2.461$ cm
NODE=S024CTA;DTYPE=C;OUR EVAL

$(\tau_{\Omega^-} - \tau_{\overline{\Omega}^+}) / \tau_{\Omega^-} = 0.00 \pm 0.05$
NODE=S024TD;DTYPE=x;OUR EST;→ UNCHECKED ←

Magnetic moment $\mu = -2.02 \pm 0.05\ \mu_N$
NODE=S024MM;DTYPE=m

Decay parameters

CLUMP=D

$\alpha(\Omega^-)\ \alpha_-(\Lambda)$ FOR $\Omega^- \to\ \Lambda K^-$ $= 0.0115 \pm 0.0015$
NODE=S024ALO;DTYPE=d;CLUMP=D

ΛK^- $\alpha = 0.0154 \pm 0.0020$
NODE=S024AL;DTYPE=d;CLUMP=D;OUR EVAL

ΛK^-, $\overline{\Lambda} K^+$ $(\alpha + \overline{\alpha})/(\alpha - \overline{\alpha}) = -0.02 \pm 0.13$
NODE=S024ALD;DTYPE=d;CLUMP=D

$\Xi^0 \pi^-$ $\alpha = 0.09 \pm 0.14$
NODE=S024AX0;DTYPE=d;CLUMP=D

$\Xi^- \pi^0$ $\alpha = 0.05 \pm 0.21$
NODE=S024AX-;DTYPE=d;CLUMP=D

Ω^- DECAY MODES		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)	
ΛK^-		(67.7 ±0.7) %		211	NODE=S024220;DESIG=1
$\Xi^0 \pi^-$		(24.3 ±0.7) %	S=1.5	294	DESIG=2
$\Xi^- \pi^0$		(8.55±0.33) %		289	DESIG=3
$\Xi^- \pi^+ \pi^-$		(3.7 $^{+0.7}_{-0.6}$) $\times 10^{-4}$		189	DESIG=8
$\Xi(1530)^0 \pi^-$		< 7	$\times 10^{-5}$ CL=90%	17	DESIG=6
$\Xi^0 e^- \overline{\nu}_e$		(5.6 ±2.8) $\times 10^{-3}$		319	DESIG=7
$\Xi^- \gamma$		< 4.6	$\times 10^{-4}$ CL=90%	314	DESIG=5
$\Delta S = 2$ forbidden ($S2$) modes					NODE=S024;CLUMP=A
$\Lambda \pi^-$	$S2$	< 2.9	$\times 10^{-6}$ CL=90%	449	DESIG=4
$\Sigma^0 \pi^-$		< 5.4	$\times 10^{-4}$ CL=90%	393	DESIG=9
$n K^-$		< 2.4	$\times 10^{-4}$ CL=90%	415	DESIG=10

$\Omega(2012)^-$

$I(J^P) = 0(?^-)$

NODE=B179

Mass $m = 2012.5 \pm 0.6$ MeV
NODE=B179M;DTYPE=M

Full width $\Gamma = 6.4^{+3.0}_{-2.6}$ MeV
NODE=B179W;DTYPE=G

$\Omega(2012)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)	
$\Xi^0 K^-$	seen	403	NODE=B179215;DESIG=1;OUR EVAL;→ UNCHECKED ←
$\Xi^- \overline{K}^0$	seen	392	DESIG=3;OUR EVAL;→ UNCHECKED ←
$\Xi^- \pi^+ K^-$	seen	224	DESIG=7;OUR EVAL;→ UNCHECKED ←

$\Omega(2250)^-$

$I(J^P) = 0(?^?)$

NODE=B141

Mass $m = 2252 \pm 9$ MeV
NODE=B141M;DTYPE=M

Full width $\Gamma = 55 \pm 18$ MeV
NODE=B141W;DTYPE=G

$\Omega(2250)^-$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)	
$\Xi^- \pi^+ K^-$	seen	532	NODE=B141215;DESIG=1;OUR EST
$\Xi(1530)^0 K^-$	seen	437	DESIG=2;OUR EST