Ω^- MAGNETIC MOMENT

VALUE (μ_N)	EVTS	DOCUMENT ID		TECN	COMMENT
$-1.94\pm0.17\pm0.14$	25k	DIEHL	91	SPEC	Spin-transfer production

Ω^- DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Confidence level
Γ_1	ΛK^-	(67.8 ± 0.7) %	
Γ_2	$\Xi^0\pi^-$	(23.6 ± 0.7) %	
Γ_3	$\Xi^-\pi^0$	(8.6 ± 0.4) %	
Γ_4	$\Xi^-\pi^+\pi^-$	$(4.3^{+3.4}_{-1.3})\times10^{-4}$	
Γ_5	$\Xi(1530)^0\pi^-$	$(6.4^{+5.1}_{-2.0})\times10^{-4}$	
Γ_6	$\Xi^0 e^-\overline{\nu}_e$	$(5.6\pm2.8)\times10^{-3}$	
Γ_7	$\Xi^-\gamma$	$< 2.2 \times10^{-3}$	90%
	$\Delta S = 2$ forbidden ($S2$) modes		
Γ_8	$\Lambda\pi^-$	$S2$ $< 1.9 \times10^{-4}$	90%

Ω^- BRANCHING RATIOS

The BOURQUIN 84 values (which include results of BOURQUIN 79B, a separate experiment) are much more accurate than any other results, and so the other results have been omitted.

$\Gamma(\Lambda K^-)/\Gamma_{total}$ Γ_1/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.678 ± 0.007	14k	BOURQUIN	84	SPEC	SPS hyperon beam
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.686 ± 0.013	1920	BOURQUIN	79B	SPEC	See BOURQUIN 84

$\Gamma(\Xi^0\pi^-)/\Gamma_{total}$ Γ_2/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.236 ± 0.007	1947	BOURQUIN	84	SPEC	SPS hyperon beam
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.234 ± 0.013	317	BOURQUIN	79B	SPEC	See BOURQUIN 84

$\Gamma(\Xi^-\pi^0)/\Gamma_{total}$ Γ_3/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.086 ± 0.004	759	BOURQUIN	84	SPEC	SPS hyperon beam
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.080 ± 0.008	145	BOURQUIN	79B	SPEC	See BOURQUIN 84

$\Gamma(\Xi^-\pi^+\pi^-)/\Gamma_{total}$ Γ_4/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
$4.3^{+3.4}_{-1.3}$	4	BOURQUIN	84	SPEC	SPS hyperon beam

$\Gamma(\Xi(1530)^0\pi^-)/\Gamma_{total}$ Γ_5/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
$6.4^{+5.1}_{-2.0}$	4	[5] BOURQUIN	84	SPEC	SPS hyperon beam
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 20	1	BOURQUIN	79B	SPEC	See BOURQUIN 84

[5] The same 4 events as in the previous mode, with the isospin factor to take into account $\Xi(1530)^0 \to \Xi^0\pi^0$ decays included.

$\Gamma(\Xi^0 e^-\overline{\nu}_e)/\Gamma_{total}$ Γ_6/Γ

VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
5.6 ± 2.8	14	BOURQUIN	84	SPEC	SPS hyperon beam
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 10	3	BOURQUIN	79B	SPEC	See BOURQUIN 84

$\Gamma(\Xi^-\gamma)/\Gamma_{total}$ Γ_7/Γ

VALUE (units 10^{-3})	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<2.2	90	9	BOURQUIN	84	SPEC	SPS hyperon beam
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<3.1	90	0	BOURQUIN	79B	SPEC	See BOURQUIN 84

$\Gamma(\Lambda\pi^-)/\Gamma_{total}$ Γ_8/Γ

ΔS=2. Forbidden in first-order weak interaction.

VALUE (units 10^{-4})	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
< 1.9	90	0	BOURQUIN	84	SPEC	SPS hyperon beam
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<13	90	0	BOURQUIN	79B	SPEC	See BOURQUIN 84

Ω^- DECAY PARAMETERS

α FOR $\Omega^- \to \Lambda K^-$

Some early results have been omitted.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
-0.026 ± 0.026 OUR AVERAGE					
-0.034 ± 0.079	1743	LUK	88	SPEC	pBe 400 GeV
-0.025 ± 0.028	12k	BOURQUIN	84	SPEC	SPS hyperon beam

α FOR $\Omega^- \to \Xi^0\pi^-$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$+0.09\pm0.14$	1630	BOURQUIN	84	SPEC	SPS hyperon beam

α FOR $\Omega^- \to \Xi^-\pi^0$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$+0.05\pm0.21$	614	BOURQUIN	84	SPEC	SPS hyperon beam

Ω^- REFERENCES

We have omitted some papers that have been superseded by later experiments. The omitted papers may be found in our 1986 edition (Physics Letters **170B**) or in earlier editions.

DIEHL	91	PRL 67 804	+Teige, Thompson, Zou+	(RUTG, FNAL, MICH, MINN)
LUK	88	PR D38 19	+Beretvas, Deck+	(RUTG, WISC, MICH, MINN)
HARTOUNI	85	PRL 54 628	+Atiya, Holmes, Knapp, Lee+	(COLU, ILL, FNAL)
BOURQUIN	84	NP B241 1	+	(BRIS, GEVA, HEIDP, LALO, RAL, STRB)
Also	79	PL 87B 297	Bourquin+	(BRIS, GEVA, HEIDP, ORSAY, RHEL, STRB)
BOURQUIN	79B	PL 88B 192	+	(BRIS, GEVA, HEIDP, LALO, RAL)
BAUBILLIER	78	PL 78B 342	+	(BIRM, CERN, GLAS, MSU, CURIN, PARIN) J
DEUTSCH...	78	PL 73B 96	Deutschmann+	(AACH3, BERL, CERN, INNS, LOIC+) J
HEMINGWAY	78	NP B142 205	+Armenteros+	(CERN, ZEEM, NIJM, OXF)
DIBIANCA	75	NP B98 137	+Endorf	(CMU)
ALVAREZ	73	PR D8 702		(LBL)
DEUTSCH...	73	NP B61 102	Deutschmann, Kaufmann, Besliv+	(ABCLV Collab.)
FIRESTONE	71B	PRL 26 410	+Goldhaber, Lissauer, Sheldon, Trilling	(LRL)
SPETH	69	PL 29B 252	+	(AACH, BERL, CERN, LOIC, VIEN)
PALMER	68	PL 26B 323	+Radojicic, Rau, Richardson+	(BNL, SYRA)
SCHULTZ	68	PR 168 1509	+	(ILL, ANL, NWES, WISC)
SCOTTER	68	PL 26B 474	+	(BIRM, GLAS, LOIC, MUNI, OXF)
ABRAMS	64	PRL 13 670	+Burnstein, Glasser+	(UMD, NRL)
BARNES	64	PRL 12 204	+Connolly, Crennell, Culwick+	(BNL)
FRY	55	PR 97 1189	+Schneps, Swami	(WISC)
FRY	55B	NC 2 346	+Schneps, Swami	(WISC)
EISENBERG	54	PR 96 541		(CORN)

$\Omega(2250)^-$

$I(J^P) = 0(?^?)$ Status: ∗∗∗

$\Omega(2250)^-$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
$2252\pm\ 9$ OUR AVERAGE					
2253 ± 13	44	ASTON	87B	LASS	K^-p 11 GeV/c
$2251\pm\ 9\pm8$	78	BIAGI	86B	SPEC	SPS Ξ^- beam

$\Omega(2250)^-$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
55 ± 18 OUR AVERAGE					
81 ± 38	44	ASTON	87B	LASS	K^-p 11 GeV/c
48 ± 20	78	BIAGI	86B	SPEC	SPS Ξ^- beam

$\Omega(2250)^-$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Xi^-\pi^+K^-$	seen
Γ_2	$\Xi(1530)^0 K^-$	seen

$\Omega(2250)^-$ BRANCHING RATIOS

$\Gamma(\Xi(1530)^0 K^-)/\Gamma(\Xi^-\pi^+K^-)$ Γ_2/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
~ 1.0	44	ASTON	87B	LASS	K^-p 11 GeV/c
0.70 ± 0.20	49	BIAGI	86B	SPEC	Ξ^- Be 116 GeV/c

$\Omega(2250)^-$ REFERENCES

ASTON	87B	PL B194 579	+Awaji, Bienz, Bird+	(SLAC, NAGO, CINC, INUS)
BIAGI	86B	ZPHY C31 33	+	(LOQM, GEVA, RAL, HEIDP, LAUS, BRIS, CERN)