NODE=B052

$\Xi(1950)$

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

We list here everything reported between 1875 and 2000 MeV. The accumulated evidence for a Ξ near 1950 MeV seems strong enough to include a $\Xi(1950)$ in the main Baryon Table, but not much can be said about its properties. In fact, there may be more than one Ξ near this mass.

NODE=B052

$\Xi(1950)$ MASS

NODE=B052M

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
1950±15 OUR ESTIMATE					
1955± 6		ADAMOVICH	99B	WA89	Σ^- nucleus, 345 GeV
1944± 9	129	BIAGI	87	SPEC	Ξ^- Be → $(\Xi^-\pi^+)\pi^-$ X
1963± 5±2	63	BIAGI	87C	SPEC	Ξ^- Be → $(\Lambda\overline{K}^0)$ X
1937± 7	150	BIAGI	81	SPEC	SPS hyperon beam
1961±18	139	BRIEFEL	77	HBC	2.87 K^-p → $\Xi^-\pi^+$X
1936±22	44	BRIEFEL	77	HBC	2.87 K^-p → $\Xi^0\pi^-$X
1964±10	56	BRIEFEL	77	HBC	$\Xi(1530)\pi$
1900±12		DIBIANCA	75	DBC	$\Xi\pi$
1952±11	25	ROSS	73C		$(\Xi\pi)^-$
1956± 6	29	BADIER	72	HBC	$\Xi\pi$, $\Xi\pi\pi$, YK
1955±14	21	GOLDWASSER	70	HBC	$\Xi\pi$
1894±18	66	DAUBER	69	HBC	$\Xi\pi$
1930±20	27	ALITTI	68	HBC	$\Xi^-\pi^+$
1933±16	35	BADIER	65	HBC	$\Xi^-\pi^+$

NODE=B052M
NODE=B052M
→ UNCHECKED ←
OCCUR=2
OCCUR=3

$\Xi(1950)$ WIDTH

NODE=B052W

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
60±20 OUR ESTIMATE					
68±22		ADAMOVICH	99B	WA89	Σ^- nucleus, 345 GeV
100±31	129	BIAGI	87	SPEC	Ξ^- Be → $(\Xi^-\pi^+)\pi^-$ X
25±15±1.2	63	BIAGI	87C	SPEC	Ξ^- Be → $(\Lambda\overline{K}^0)$ X
60± 8	150	BIAGI	81	SPEC	SPS hyperon beam
159±57	139	BRIEFEL	77	HBC	2.87 K^-p → $\Xi^-\pi^+$X
87±26	44	BRIEFEL	77	HBC	2.87 K^-p → $\Xi^0\pi^-$X
60±39	56	BRIEFEL	77	HBC	$\Xi(1530)\pi$
63±78		DIBIANCA	75	DBC	$\Xi\pi$
38±10		ROSS	73C		$(\Xi\pi)^-$
35±11	29	BADIER	72	HBC	$\Xi\pi$, $\Xi\pi\pi$, YK
56±26	21	GOLDWASSER	70	HBC	$\Xi\pi$
98±23	66	DAUBER	69	HBC	$\Xi\pi$
80±40	27	ALITTI	68	HBC	$\Xi^-\pi^+$
140±35	35	BADIER	65	HBC	$\Xi^-\pi^+$

NODE=B052W
NODE=B052W
→ UNCHECKED ←
OCCUR=2
OCCUR=3

$\Xi(1950)$ DECAY MODES

NODE=B052215;NODE=B052

	Mode	Fraction (Γ_i/Γ)	
Γ_1	$\Lambda\overline{K}$	seen	DESIG=7;OUR EST
Γ_2	$\Sigma\overline{K}$	possibly seen	DESIG=6
Γ_3	$\Xi\pi$	seen	DESIG=1;OUR EST
Γ_4	$\Xi(1530)\pi$		DESIG=2
Γ_5	$\Xi\pi\pi$(not $\Xi(1530)\ \pi$)		DESIG=3

$\Xi(1950)$ BRANCHING RATIOS

NODE=B052220

$\Gamma(\Sigma\overline{K})/\Gamma(\Lambda\overline{K})$ Γ_2/Γ_1

NODE=B052R5

VALUE	*CL%*	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
<2.3	90	0	BIAGI	87C	SPEC	Ξ^- Be 116 GeV

NODE=B052R5

$\Gamma(\Sigma\overline{K})/\Gamma_{\text{total}}$ Γ_2/Γ

NODE=B052R4
NODE=B052R4

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
possibly seen	17	HASSALL	81	HBC	K^-p 6.5 GeV/c

$\Gamma(\Xi\pi)/\Gamma(\Xi(1530)\pi)$ Γ_3/Γ_4

NODE=B052R1
NODE=B052R1

VALUE	DOCUMENT ID		TECN
$2.8^{+0.7}_{-0.6}$	APSELL	70	HBC

$\Gamma(\Xi\pi\pi(\text{not }\Xi(1530)\pi))/\Gamma(\Xi(1530)\pi)$ Γ_5/Γ_4

NODE=B052R2
NODE=B052R2

VALUE	DOCUMENT ID		TECN
0.0 ± 0.3	APSELL	70	HBC

$\Xi(1950)$ REFERENCES

NODE=B052

ADAMOVICH	99B	EPJ C11 271	M.I. Adamovich *et al.*	(CERN WA89 Collab.)	REFID=47312
BIAGI	87	ZPHY C34 15	S.F. Biagi *et al.*	(BRIS, CERN, GEVA+)	REFID=40132
BIAGI	87C	ZPHY C34 175	S.F. Biagi *et al.*	(BRIS, CERN, GEVA+)	REFID=40349
BIAGI	81	ZPHY C9 305	S.F. Biagi *et al.*	(BRIS, CAVE, GEVA+)	REFID=32065
HASSALL	81	NP B189 397	J.K. Hassall *et al.*	(CAVE, MSU)	REFID=32505
BRIEFEL	77	PR D16 2706	E. Briefel *et al.*	(BRAN, UMD, SYRA+)	REFID=32345
Also		Duke Conf. 317 Hyperon Resonances, 1970	E. Briefel *et al.*	(BRAN, UMD, SYRA+)	REFID=32497
DIBIANCA	75	NP B98 137	F.A. Dibianca, R.J. Endorf	(CMU)	REFID=12062
ROSS	73C	Purdue Conf. 345	R.T. Ross, J.L. Lloyd, D. Radojicic	(OXF)	REFID=32518
BADIER	72	NP B37 429	J. Badier *et al.*	(EPOL)	REFID=32474
APSELL	70	PRL 24 777	S.P. Apsell *et al.*	(BRAN, UMD, SYRA+) I	REFID=32515
GOLDWASSER	70	PR D1 1960	E.L. Goldwasser, P.F. Schultz	(ILL)	REFID=12052
DAUBER	69	PR 179 1262	P.M. Dauber *et al.*	(LRL) I	REFID=11783
ALITTI	68	PRL 21 1119	J. Alitti *et al.*	(BNL, SYRA) I	REFID=32534
BADIER	65	PL 16 171	J. Badier *et al.*	(EPOL, SACL, AMST) I	REFID=32509