Ξ(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 Ξ(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.

Ξ(1950) MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
1950±15 OUR ESTIMATE					
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	$\Xi^-\pi^+$

Ξ(1950) WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
60±20 OUR ESTIMATE					
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	$\Xi^-\pi^+$

Ξ(1950) DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Lambda\overline{K}$	seen
Γ_2	$\Sigma\overline{K}$	possibly seen
Γ_3	$\Xi\pi$	seen
Γ_4	$\Xi(1530)\pi$	
Γ_5	$\Xi\pi\pi$(not $\Xi(1530)\pi$)	

Ξ(1950) BRANCHING RATIOS

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

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

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

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

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

VALUE	DOCUMENT ID		TECN
0.0±0.3	APSELL	70	HBC

Ξ(1950) REFERENCES

BIAGI	87	ZPHY C34 15	+	(BRIS, CERN, GEVA, HEIDP, LAUS, LOQM, RAL)
BIAGI	87C	ZPHY C34 175	+	(BRIS, CERN, GEVA, HEIDP, LAUS, LOQM, RAL)
BIAGI	81	ZPHY C9 305	+	(BRIS, CAVE, GEVA, HEIDP, LAUS, LOQM, RHEL)
HASSALL	81	NP B189 397	+Ansorge, Carter, Neale+	(CAVE, MSU)
BRIEFEL	77	PR D16 2706	+Gourevitch, Chang+	(BRAN, UMD, SYRA, TUFTS)
Also	70	Duke Conf. 317	Briefel+	(BRAN, UMD, SYRA, TUFTS)
DIBIANCA	75	NP B98 137	+Endorf	(CMU)
ROSS	73C	Purdue Conf. 345	+Lloyd, Radojicic	(OXF)
BADIER	72	NP B37 429	+Barrelet, Charlton, Videau	(EPOL)
APSELL	70	PRL 24 777	+	(BRAN, UMD, SYRA, TUFTS) I
GOLDWASSER	70	PR D1 1960	+Schultz	(ILL)
DAUBER	69	PR 179 1262	+Berge, Hubbard, Merrill, Miller	(LRL) I
ALITTI	68	PRL 21 1119	+Flaminio, Metzger, Radojicic+	(BNL, SYRA) I
BADIER	65	PL 16 171	+Demoulin, Goldberg+	(EPOL, SACL, AMST) I