$\Xi(2120)$ BRANCHING RATIOS

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

VALUE	DOCUMENT ID		TECN	COMMENT
seen	[1] CHLIAPNIK...	79	HBC	$K^+ p \to (\overline{\Lambda} K^+)$ X
seen	[2] GAY	76C	HBC	$K^- p$ 4.2 GeV/c

$\Xi(2120)$ FOOTNOTES

[1] CHLIAPNIKOV 79 does not uniquely identify the K^+ in the $(\overline{\Lambda} K^+)$ X final state. It also reports bumps with fewer events at 2240, 2540, and 2830 MeV.

[2] GAY 76C sees a 4-standard deviation signal. However, HEMINGWAY 77, with more events from the same experiment points out that the signal is greatly reduced if a cut is made on the 4-momentum u. This suggests an anomalous production mechanism if the $\Xi(2120)$ is real.

$\Xi(2120)$ REFERENCES

CHLIAPNIK...	79	NP B158 253	Chliapnikov, Gerdyukov+	(CERN, BELG, MONS)
HEMINGWAY	77	PL 68B 197	+Armenteros+	(AMST, CERN, NIJM, OXF)
GAY	76C	PL 62B 477	+Armenteros, Berge+	(AMST, CERN, NIJM)

$\Xi(2250)$

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

J, P need confirmation.

OMITTED FROM SUMMARY TABLE

The evidence for this state is mixed. BARTSCH 69 sees a bump of not much statistical significance in $\Lambda\overline{K}\pi$, $\Sigma\overline{K}\pi$, and $\Xi\pi\pi$ mass spectra. GOLDWASSER 70 sees a narrower bump in $\Xi\pi\pi$ at a higher mass. Not seen by HASSALL 81 with 45 events/μb at 6.5 GeV/c. Seen by JENKINS 83. Perhaps seen by BIAGI 87.

$\Xi(2250)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
≈ 2250 OUR ESTIMATE						
2189 ± 7	66	BIAGI	87	SPEC	–	Ξ^- Be → ($\Xi^-\pi^+\pi^-$) X
2214 ± 5		JENKINS	83	MPS	–	$K^- p \to K^+$ MM
2295 ± 15	18	GOLDWASSER	70	HBC	–	$K^- p$ 5.5 GeV/c
2244 ± 52	35	BARTSCH	69	HBC		$K^- p$ 10 GeV/c

$\Xi(2250)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
46 ± 27	66	BIAGI	87	SPEC	–	Ξ^- Be → ($\Xi^-\pi^+\pi^-$) X
< 30		GOLDWASSER	70	HBC	–	$K^- p$ 5.5 GeV/c
130 ± 80		BARTSCH	69	HBC		

$\Xi(2250)$ DECAY MODES

	Mode
Γ_1	$\Xi\pi\pi$
Γ_2	$\Lambda\overline{K}\pi$
Γ_3	$\Sigma\overline{K}\pi$

$\Xi(2250)$ REFERENCES

BIAGI	87	ZPHY C34 15	+	(BRIS, CERN, GEVA, HEIDP, LAUS, LOQM, RAL)
JENKINS	83	PRL 51 951	+Albright, Diamond+	(FSU, BRAN, LBL, CINC, MASD)
HASSALL	81	NP B189 397	+Ansorge, Carter, Neale+	(CAVE, MSU)
GOLDWASSER	70	PR D1 1960	+Schultz	(ILL)
BARTSCH	69	PL 28B 439	+	(AACH, BERL, CERN, LOIC, VIEN)

$\Xi(2370)$

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

J, P need confirmation.

OMITTED FROM SUMMARY TABLE

$\Xi(2370)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
≈ 2370 OUR ESTIMATE						
2356 ± 10		JENKINS	83	MPS	–	$K^- p \to K^+$ MM
2370	50	HASSALL	81	HBC	−0	$K^- p$ 6.5 GeV/c
2373 ± 8	94	AMIRZADEH	80	HBC	−0	$K^- p$ 8.25 GeV/c
2392 ± 27		DIBIANCA	75	DBC		$\Xi 2\pi$

$\Xi(2370)$ WIDTH

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
80	50	HASSALL	81	HBC	−0	$K^- p$ 6.5 GeV/c
80 ± 25	94	AMIRZADEH	80	HBC	−0	$K^- p$ 8.25 GeV/c
75 ± 69		DIBIANCA	75	DBC		$\Xi 2\pi$

$\Xi(2370)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)
Γ_1	$\Lambda\overline{K}\pi$ Includes $\Gamma_4 + \Gamma_6$.	seen
Γ_2	$\Sigma\overline{K}\pi$ Includes $\Gamma_5 + \Gamma_6$.	seen
Γ_3	$\Omega^- K$	
Γ_4	$\Lambda\overline{K}^*(892)$	
Γ_5	$\Sigma\overline{K}^*(892)$	
Γ_6	$\Sigma(1385)\overline{K}$	

$\Xi(2370)$ BRANCHING RATIOS

$\Gamma(\Lambda\overline{K}\pi)/\Gamma_{total}$ Γ_1/Γ

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
seen	AMIRZADEH	80	HBC	−0	$K^- p$ 8.25 GeV/c

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

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
seen	AMIRZADEH	80	HBC	−0	$K^- p$ 8.25 GeV/c

$[\Gamma(\Lambda\overline{K}\pi) + \Gamma(\Sigma\overline{K}\pi)]/\Gamma_{total}$ $(\Gamma_1+\Gamma_2)/\Gamma$

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
seen	50	HASSALL	81	HBC	−0	$K^- p$ 6.5 GeV/c

$\Gamma(\Omega^- K)/\Gamma_{total}$ Γ_3/Γ

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.09 ± 0.04	[1] KINSON	80	HBC	–	$K^- p$ 8.25 GeV/c

$[\Gamma(\Lambda\overline{K}^*(892)) + \Gamma(\Sigma\overline{K}^*(892))]/\Gamma_{total}$ $(\Gamma_4+\Gamma_5)/\Gamma$

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.22 ± 0.13	[1] KINSON	80	HBC	–	$K^- p$ 8.25 GeV/c

$\Gamma(\Sigma(1385)\overline{K})/\Gamma_{total}$ Γ_6/Γ

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.12 ± 0.08	[1] KINSON	80	HBC	–	$K^- p$ 8.25 GeV/c

$\Xi(2370)$ FOOTNOTES

[1] KINSON 80 is a reanalysis of AMIRZADEH 80 with 50% more events.

$\Xi(2370)$ REFERENCES

JENKINS	83	PRL 51 951	+Albright, Diamond+	(FSU, BRAN, LBL, CINC, MASD)
HASSALL	81	NP B189 397	+Ansorge, Carter, Neale+	(CAVE, MSU)
AMIRZADEH	80	PL 90B 324	+	(BIRM, CERN, GLAS, MSU, CURIN)I
KINSON	80	Toronto Conf. 263	+	(BIRM, CERN, GLAS, MSU, CURIN)I
DIBIANCA	75	NP B98 137	+Endorf	(CMU)