

$\Xi(1620)$

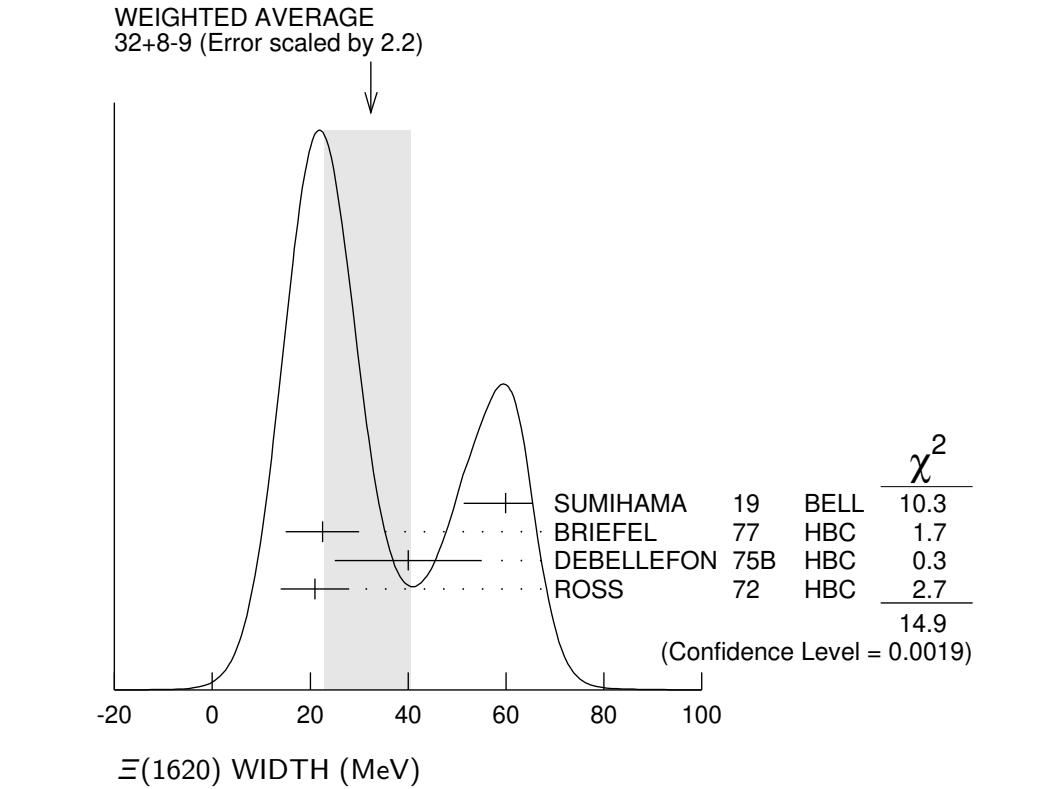
$I(J^P) = \frac{1}{2}(??)$ Status: **
 J, P need confirmation.

OMITTED FROM SUMMARY TABLE

The clearest evidence is a peak in $\Xi^- \pi^+$ seen by SUMIHAMA 19.
Older low-statistics experiments (e.g., BORENSTEIN 72 and HAS-SALL 81) have looked for the state but have not seen any effect.

$\Xi(1620)$ MASS						
VALUE (MeV)		EVTS	DOCUMENT ID		TECN	COMMENT
≈ 1620	OUR ESTIMATE					
1610.4	$\pm 6.0^{+6.1}_{-4.2}$		SUMIHAMA	19	BELL	$\Xi_c^+ \rightarrow \Xi(1620)\pi^+$
1624	± 3	31	BRIEFEL	77	HBC	$K^- p$ 2.87 GeV/c
1633	± 12	34	DEBELLEFON	75B	HBC	$K^- p \rightarrow \Xi^- \bar{K} \pi$
1606	± 6	29	ROSS	72	HBC	$K^- p$ 3.1–3.7 GeV/c

$\Xi(1620)$ WIDTH					
<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	
$32 \pm 8_{-9}$	OUR AVERAGE	Error includes scale factor of 2.2. See the ideogram below.			
$59.9 \pm 4.8^{+2.8}_{-7.1}$		SUMIHAMA	19	BELL	$\Xi_c^+ \rightarrow \Xi(1620) \pi^+$
22.5 ± 7.5	31	¹ BRIEFEL	77	HBC	$K^- p$ 2.87 GeV/ <i>c</i>
40 ± 15	34	DEBELLEFON	75B	HBC	$K^- p \rightarrow \Xi^- \bar{K} \pi$
21 ± 7	29	ROSS	72	HBC	$K^- p \rightarrow \Xi^- \pi^+ K^{*0}(892)$



$\Xi(1620)$ DECAY MODES

Mode	
Γ_1	$\Xi \pi$

$\Xi(1620)$ FOOTNOTES

¹ The fit is insensitive to values between 15 and 30 MeV.

$\Xi(1620)$ REFERENCES

SUMIHAMA	19	PRL 122 072501	M. Sumihama <i>et al.</i>	(BELLE Collab.)
HASSALL	81	NP B189 397	J.K. Hassall <i>et al.</i>	(CAVE, MSU)
BRIEFEL	77	PR D16 2706	E. Briefel <i>et al.</i>	(BRAN, UMD, SYRA+)
Also		Duke Conf. 317	E. Briefel <i>et al.</i>	(BRAN, UMD, SYRA+)
Hyperon Resonances,		1970		
Also		PR D12 1859	E. Briefel <i>et al.</i>	(BRAN, UMD, SYRA+)
DEBELLEFON	75B	NC 28A 289	A. de Bellefon <i>et al.</i>	(CDEF, SACL)
BORENSTEIN	72	PR D5 1559	S.R. Borenstein <i>et al.</i>	(BNL, MICH) I
ROSS	72	PL 38B 177	R.T. Ross <i>et al.</i>	(OXF) I

OTHER RELATED PAPERS

HUNGERBU...	74	PR D10 2051	V. Hungerbuhler <i>et al.</i>	(YALE, FNAL, BNL+)
SCHMIDT	73	Purdue Conf. 363	P.E. Schmidt	(BRAN)
KALBFLEISCH	70	Duke Conf. 331	G.R. Kalbfleisch	(BNL) I
Hyperon Resonances		1970		
APSELL	69	PRL 23 884	S.P. Apsell <i>et al.</i>	(BRAN, UMD, SYRA+)
BARTSCH	69	PL 28B 439	J. Bartsch <i>et al.</i>	(AACH, BERL, CERN+)