

# $\Xi(2120)$

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

OMITTED FROM SUMMARY TABLE

## $\Xi(2120)$ MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>≈ 2120 OUR ESTIMATE</b>				
2137±4	18	<sup>1</sup> CHLIAPNIK...	79 HBC	$K^+ p$ 32 GeV/ <i>c</i>
2123±7		<sup>2</sup> GAY	76C HBC	$K^- p$ 4.2 GeV/ <i>c</i>

## $\Xi(2120)$ WIDTH

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<20	18	<sup>1</sup> CHLIAPNIK...	79 HBC	$K^+ p$ 32 GeV/ <i>c</i>
25±12		<sup>2</sup> GAY	76C HBC	$K^- p$ 4.2 GeV/ <i>c</i>

## $\Xi(2120)$ DECAY MODES

Mode	Fraction ( $\Gamma_j/\Gamma$ )
$\Gamma_1 \quad \Lambda \bar{K}$	seen

## $\Xi(2120)$ BRANCHING RATIOS

$\Gamma(\Lambda \bar{K})/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$		
<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>seen</b>	<sup>1</sup> CHLIAPNIK...	79 HBC	$K^+ p \rightarrow (\bar{\Lambda} K^+) X$
<b>seen</b>	<sup>2</sup> GAY	76C HBC	$K^- p$ 4.2 GeV/ <i>c</i>

## $\Xi(2120)$ FOOTNOTES

- <sup>1</sup> CHLIAPNIKOV 79 does not uniquely identify the  $K^+$  in the  $(\bar{\Lambda} K^+) X$  final state. It also reports bumps with fewer events at 2240, 2540, and 2830 MeV.
- <sup>2</sup> 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	P.V. Chliapnikov <i>et al.</i>	(CERN, BELG, MONS)
HEMINGWAY 77	PL 68B 197	R.J. Hemingway <i>et al.</i>	(AMST, CERN, NIJM+)
GAY 76C	PL 62B 477	J.B. Gay <i>et al.</i>	(AMST, CERN, NIJM)