

$\Xi(2120)$

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

NODE=B103

OMITTED FROM SUMMARY TABLE

$\Xi(2120)$  MASS

NODE=B103M

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

NODE=B103M  
→ UNCHECKED ←

$\Xi(2120)$  WIDTH

NODE=B103W

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

NODE=B103W

$\Xi(2120)$  DECAY MODES

NODE=B103215;NODE=B103

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

DESIG=1

$\Xi(2120)$  BRANCHING RATIOS

NODE=B103220

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

NODE=B103R1  
NODE=B103R1

$\Xi(2120)$  FOOTNOTES

NODE=B103

- <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.

NODE=B103;LINKAGE=A

NODE=B103;LINKAGE=B

$\Xi(2120)$  REFERENCES

NODE=B103

|                 |             |                                |                     |
|-----------------|-------------|--------------------------------|---------------------|
| 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)  |

REFID=22849  
REFID=32552  
REFID=32520