# $\Xi(2370)$

$I(J^P) = \frac{1}{2}(?^?)$ 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 | – | $K^- p \rightarrow K^+$ 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 ($\Gamma_i/\Gamma$) |
|---|---|---|
| $\Gamma_1$ | $\Lambda\overline{K}\pi$ | seen |
| | Includes $\Gamma_4 + \Gamma_6$. | |
| $\Gamma_2$ | $\Sigma\overline{K}\pi$ | seen |
| | Includes $\Gamma_5 + \Gamma_6$. | |
| $\Gamma_3$ | $\Omega^- K$ | |
| $\Gamma_4$ | $\Lambda\overline{K}^*(892)$ | |
| $\Gamma_5$ | $\Sigma\overline{K}^*(892)$ | |
| $\Gamma_6$ | $\Sigma(1385)\overline{K}$ | |

## $\Xi(2370)$ BRANCHING RATIOS

### $\Gamma(\Lambda\overline{K}\pi)/\Gamma_{total}$ $\Gamma_1/\Gamma$

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

### $\Gamma(\Sigma\overline{K}\pi)/\Gamma_{total}$ $\Gamma_2/\Gamma$

| 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/$c$ |

$\Gamma(\Omega^- K)/\Gamma_{total}$ $\Gamma_3/\Gamma$

| 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/$c$ |

$\Gamma(\Sigma(1385)\overline{K})/\Gamma_{total}$ $\Gamma_6/\Gamma$

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

## Ξ(2370) FOOTNOTES

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

## Ξ(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) |