

$\Xi(2370)$

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

OMITTED FROM SUMMARY TABLE

$\Xi(2370)$ MASS

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> |
|---|-------------|--------------------|-------------|------------|---------------------------------|
| ≈ 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

| <u>VALUE (MeV)</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> |
|--------------------|-------------|--------------------|-------------|------------|--------------------------|
| 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 $\Lambda \bar{K} \pi$ Includes $\Gamma_4 + \Gamma_6$. | seen |
| Γ_2 $\Sigma \bar{K} \pi$ Includes $\Gamma_5 + \Gamma_6$. | seen |
| Γ_3 $\Omega^- K$ | |
| Γ_4 $\Lambda \bar{K}^*(892)$ | |
| Γ_5 $\Sigma \bar{K}^*(892)$ | |
| Γ_6 $\Sigma(1385) \bar{K}$ | |

$\Xi(2370)$ BRANCHING RATIOS

| $\Gamma(\Lambda \bar{K} \pi)/\Gamma_{\text{total}}$ | Γ_1/Γ | | | |
|---|--------------------|-------------|------------|--------------------------|
| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> |
| seen | AMIRZADEH | 80 | HBC | –0 $K^- p$ 8.25 GeV/c |

| $\Gamma(\Sigma \bar{K} \pi)/\Gamma_{\text{total}}$ | Γ_2/Γ | | | |
|--|--------------------|-------------|------------|--------------------------|
| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> |
| seen | AMIRZADEH | 80 | HBC | –0 $K^- p$ 8.25 GeV/c |

| $[\Gamma(\Lambda\bar{K}\pi) + \Gamma(\Sigma\bar{K}\pi)]/\Gamma_{\text{total}}$ | | $(\Gamma_1+\Gamma_2)/\Gamma$ | | | | |
|--|-------------|------------------------------|-------------|------------|----------------|-------------------|
| <u>VALUE</u> | <u>EVTS</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> | |
| seen | 50 | HASSALL | 81 | HBC | -0 | $K^- p$ 6.5 GeV/c |

| $\Gamma(\Omega^- K)/\Gamma_{\text{total}}$ | | Γ_3/Γ | | | | |
|--|---------------------|-------------------|------------|----------------|--------------------|--|
| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> | | |
| 0.09 ± 0.04 | ¹ KINSON | 80 | HBC | - | $K^- p$ 8.25 GeV/c | |

| $[\Gamma(\Lambda\bar{K}^*(892)) + \Gamma(\Sigma\bar{K}^*(892))]/\Gamma_{\text{total}}$ | | $(\Gamma_4+\Gamma_5)/\Gamma$ | | | | |
|--|---------------------|------------------------------|------------|----------------|--------------------|--|
| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> | | |
| 0.22 ± 0.13 | ¹ KINSON | 80 | HBC | - | $K^- p$ 8.25 GeV/c | |

| $\Gamma(\Sigma(1385)\bar{K})/\Gamma_{\text{total}}$ | | Γ_6/Γ | | | | |
|---|---------------------|-------------------|------------|----------------|--------------------|--|
| <u>VALUE</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>CHG</u> | <u>COMMENT</u> | | |
| 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 | C.M. Jenkins <i>et al.</i> | (FSU, BRAN, LBL+) |
| HASSALL | 81 | NP B189 397 | J.K. Hassall <i>et al.</i> | (CAVE, MSU) |
| AMIRZADEH | 80 | PL 90B 324 | J. Amirzadeh <i>et al.</i> | (BIRM, CERN, GLAS+) I |
| KINSON | 80 | Toronto Conf. 263 | J.B. Kinson <i>et al.</i> | (BIRM, CERN, GLAS+) I |
| DIBIANCA | 75 | NP B98 137 | F.A. Dibianca, R.J. Endorf | (CMU) |