

$\Delta(2400) \ G_{39}$

$I(J^P) = \frac{3}{2}(\frac{9}{2}^-)$  Status: \*\*

OMITTED FROM SUMMARY TABLE

$\Delta(2400)$  BREIT-WIGNER MASS

| VALUE (MeV)                                   | DOCUMENT ID | TECN | COMMENT                        |
|-----------------------------------------------|-------------|------|--------------------------------|
| <b><math>\approx 2400</math> OUR ESTIMATE</b> |             |      |                                |
| $2300 \pm 100$                                | CUTKOSKY    | 80   | IPWA $\pi N \rightarrow \pi N$ |
| $2468 \pm 50$                                 | HOEHLER     | 79   | IPWA $\pi N \rightarrow \pi N$ |
| $2200 \pm 100$                                | HENDRY      | 78   | MPWA $\pi N \rightarrow \pi N$ |

$\Delta(2400)$  BREIT-WIGNER WIDTH

| VALUE (MeV)   | DOCUMENT ID | TECN | COMMENT                        |
|---------------|-------------|------|--------------------------------|
| $330 \pm 100$ | CUTKOSKY    | 80   | IPWA $\pi N \rightarrow \pi N$ |
| $480 \pm 100$ | HOEHLER     | 79   | IPWA $\pi N \rightarrow \pi N$ |
| $450 \pm 200$ | HENDRY      | 78   | MPWA $\pi N \rightarrow \pi N$ |

$\Delta(2400)$  POLE POSITION

REAL PART

| VALUE (MeV)   | DOCUMENT ID | TECN | COMMENT                        |
|---------------|-------------|------|--------------------------------|
| $2260 \pm 60$ | CUTKOSKY    | 80   | IPWA $\pi N \rightarrow \pi N$ |

−2×IMAGINARY PART

| VALUE (MeV)   | DOCUMENT ID | TECN | COMMENT                        |
|---------------|-------------|------|--------------------------------|
| $320 \pm 160$ | CUTKOSKY    | 80   | IPWA $\pi N \rightarrow \pi N$ |

$\Delta(2400)$  ELASTIC POLE RESIDUE

MODULUS  $|r|$

| VALUE (MeV) | DOCUMENT ID | TECN | COMMENT                        |
|-------------|-------------|------|--------------------------------|
| $8 \pm 4$   | CUTKOSKY    | 80   | IPWA $\pi N \rightarrow \pi N$ |

PHASE  $\theta$

| VALUE (°)    | DOCUMENT ID | TECN | COMMENT                        |
|--------------|-------------|------|--------------------------------|
| $-25 \pm 15$ | CUTKOSKY    | 80   | IPWA $\pi N \rightarrow \pi N$ |

$\Delta(2400)$  DECAY MODES

| Mode                  |
|-----------------------|
| $\Gamma_1 \ N \pi$    |
| $\Gamma_2 \ \Sigma K$ |

**$\Delta(2400)$  BRANCHING RATIOS**

| $\Gamma(N\pi)/\Gamma_{\text{total}}$                                                                      |             |      |         | $\Gamma_1/\Gamma$                  |
|-----------------------------------------------------------------------------------------------------------|-------------|------|---------|------------------------------------|
| VALUE                                                                                                     | DOCUMENT ID | TECN | COMMENT |                                    |
| $0.05 \pm 0.02$                                                                                           | CUTKOSKY    | 80   | IPWA    | $\pi N \rightarrow \pi N$          |
| $0.06 \pm 0.03$                                                                                           | HOEHLER     | 79   | IPWA    | $\pi N \rightarrow \pi N$          |
| $0.10 \pm 0.03$                                                                                           | HENDRY      | 78   | MPWA    | $\pi N \rightarrow \pi N$          |
| <hr/>                                                                                                     |             |      |         |                                    |
| $(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow \Delta(2400) \rightarrow \Sigma K$ |             |      |         | $(\Gamma_1 \Gamma_2)^{1/2}/\Gamma$ |
| VALUE                                                                                                     | DOCUMENT ID | TECN | COMMENT |                                    |
| $<0.015$                                                                                                  | CANDLIN     | 84   | DPWA    | $\pi^+ p \rightarrow \Sigma^+ K^+$ |

**$\Delta(2400)$  REFERENCES**

|          |    |                  |                             |                   |
|----------|----|------------------|-----------------------------|-------------------|
| CANDLIN  | 84 | NP B238 477      | D.J. Candlin <i>et al.</i>  | (EDIN, RAL, LOWC) |
| CUTKOSKY | 80 | Toronto Conf. 19 | R.E. Cutkosky <i>et al.</i> | (CMU, LBL) IJP    |
| Also     | 79 | PR D20 2839      | R.E. Cutkosky <i>et al.</i> | (CMU, LBL)        |
| HOEHLER  | 79 | PDAT 12-1        | G. Hohler <i>et al.</i>     | (KARLT) IJP       |
| Also     | 80 | Toronto Conf. 3  | R. Koch                     | (KARLT) IJP       |
| HENDRY   | 78 | PRL 41 222       | A.W. Hendry                 | (IND, LBL) IJP    |
| Also     | 81 | ANP 136 1        | A.W. Hendry                 | (IND)             |