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

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

OMITTED FROM SUMMARY TABLE

## $\Delta(2400)$ MASS

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| **≈ 2400 OUR ESTIMATE** | | | | |
| 2300 ± 100 | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |
| 2468 ± 50 | HOEHLER | 79 | IPWA | $\pi N \rightarrow \pi N$ |
| 2200 ± 100 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ |

## $\Delta(2400)$ WIDTH

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

## $\Delta(2400)$ POLE POSITION

### REAL PART

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

### $-2\times$IMAGINARY PART

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

## $\Delta(2400)$ ELASTIC POLE RESIDUE

### MODULUS $|r|$

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

### PHASE $\theta$

| *VALUE* (°) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| −25 ± 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

### $\Gamma(N\pi)/\Gamma_{total}$ $\Gamma_1/\Gamma$

| 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 | $\pi N \rightarrow \pi N$ |

### $(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ 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 | +Lowe, Peach, Scotland+ | (EDIN, RAL, LOWC) |
| CUTKOSKY | 80 | Toronto Conf. 19 | +Forsyth, Babcock, Kelly, Hendrick | (CMU, LBL) IJP |
| Also | 79 | PR D20 2839 | Cutkosky, Forsyth, Hendrick, Kelly | (CMU, LBL) |
| HOEHLER | 79 | PDAT 12-1 | +Kaiser, Koch, Pietarinen | (KARLT) IJP |
| Also | 80 | Toronto Conf. 3 | Koch | (KARLT) IJP |
| HENDRY | 78 | PRL 41 222 | | (IND, LBL) IJP |
| Also | 81 | ANP 136 1 | Hendry | (IND) |