

Δ(2200) G₃₇

$$I(J^P) = \frac{3}{2}(\frac{7}{2}^-) \text{ Status: } *$$

OMITTED FROM SUMMARY TABLE

The various analyses are not in good agreement.

The latest GWU analysis (ARNDT 06) finds no evidence for this resonance.

Δ(2200) BREIT-WIGNER MASS

| <u>VALUE (MeV)</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|--------------------|-------------|--|
| ≈ 2200 OUR ESTIMATE | | | |
| 2200 ± 80 | CUTKOSKY 80 | IPWA | π N → π N |
| 2215 ± 60 | HOEHLER 79 | IPWA | π N → π N |
| 2280 ± 80 | HENDRY 78 | MPWA | π N → π N |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | |
| 2280 ± 40 | CANDLIN 84 | DPWA | π ⁺ p → Σ ⁺ K ⁺ |

Δ(2200) BREIT-WIGNER WIDTH

| <u>VALUE (MeV)</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|---|--------------------|-------------|--|
| 450 ± 100 | CUTKOSKY 80 | IPWA | π N → π N |
| 400 ± 100 | HOEHLER 79 | IPWA | π N → π N |
| 400 ± 150 | HENDRY 78 | MPWA | π N → π N |
| ● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ● | | | |
| 400 ± 50 | CANDLIN 84 | DPWA | π ⁺ p → Σ ⁺ K ⁺ |

Δ(2200) POLE POSITION

REAL PART

| <u>VALUE (MeV)</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------|--------------------|-------------|----------------|
| 2100 ± 50 | CUTKOSKY 80 | IPWA | π N → π N |

− 2×IMAGINARY PART

| <u>VALUE (MeV)</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------|--------------------|-------------|----------------|
| 340 ± 80 | CUTKOSKY 80 | IPWA | π N → π N |

Δ(2200) ELASTIC POLE RESIDUE

MODULUS |r|

| <u>VALUE (MeV)</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|--------------------|--------------------|-------------|----------------|
| 8 ± 3 | CUTKOSKY 80 | IPWA | π N → π N |

PHASE θ

| <u>VALUE (°)</u> | <u>DOCUMENT ID</u> | <u>TECN</u> | <u>COMMENT</u> |
|------------------|--------------------|-------------|----------------|
| − 70 ± 40 | CUTKOSKY 80 | IPWA | π N → π N |

$\Delta(2200)$ DECAY MODES

| Mode |
|-----------------------|
| Γ_1 $N\pi$ |
| Γ_2 ΣK |

$\Delta(2200)$ BRANCHING RATIOS

| $\Gamma(N\pi)/\Gamma_{\text{total}}$ | Γ_1/Γ |
|--------------------------------------|--|
| <i>VALUE</i> | <i>DOCUMENT ID</i> <i>TECN</i> <i>COMMENT</i> |
| 0.06 ± 0.02 | CUTKOSKY 80 IPWA $\pi N \rightarrow \pi N$ |
| 0.05 ± 0.02 | HOEHLER 79 IPWA $\pi N \rightarrow \pi N$ |
| 0.09 ± 0.02 | HENDRY 78 MPWA $\pi N \rightarrow \pi N$ |

| $(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow \Delta(2200) \rightarrow \Sigma K$ | $(\Gamma_1 \Gamma_2)^{1/2}/\Gamma$ |
|---|--|
| <i>VALUE</i> | <i>DOCUMENT ID</i> <i>TECN</i> <i>COMMENT</i> |
| -0.014 ± 0.005 | CANDLIN 84 DPWA $\pi^+ p \rightarrow \Sigma^+ K^+$ |

$\Delta(2200)$ REFERENCES

| | | | | |
|----------|----|------------------|-----------------------------|-------------------|
| ARNDT | 06 | PR C74 045205 | R.A. Arndt <i>et al.</i> | |
| CANDLIN | 84 | NP B238 477 | D.J. Candlin <i>et al.</i> | (GWU) |
| CUTKOSKY | 80 | Toronto Conf. 19 | R.E. Cutkosky <i>et al.</i> | (EDIN, RAL, LOWC) |
| Also | | PR D20 2839 | R.E. Cutkosky <i>et al.</i> | (CMU, LBL) IJP |
| HOEHLER | 79 | PDAT 12-1 | G. Hohler <i>et al.</i> | (CMU, LBL) IJP |
| Also | | Toronto Conf. 3 | R. Koch | (KARLT) IJP |
| HENDRY | 78 | PRL 41 222 | A.W. Hendry | (KARLT) IJP |
| Also | | ANP 136 1 | A.W. Hendry | (IND, LBL) IJP |
| | | | | (IND) |