# $N(2200)$ $D_{15}$

$I(J^P) = \frac{1}{2}(\frac{5}{2}^-)$ Status: **

OMITTED FROM SUMMARY TABLE

The mass is not well determined. A few early results have been omitted.

## *N*(2200) BREIT-WIGNER MASS

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| **≈ 2200 OUR ESTIMATE** | | | | |
| 1900 | BELL | 83 | DPWA | $\pi^- p \rightarrow \Lambda K^0$ |
| 2180±80 | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |
| 1920 | SAXON | 80 | DPWA | $\pi^- p \rightarrow \Lambda K^0$ |
| 2228±30 | HOEHLER | 79 | IPWA | $\pi N \rightarrow \pi N$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 2240±65 | BATINIC | 95 | DPWA | $\pi N \rightarrow N\pi,\ N\eta$ |

## *N*(2200) BREIT-WIGNER WIDTH

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 130 | BELL | 83 | DPWA | $\pi^- p \rightarrow \Lambda K^0$ |
| 400±100 | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |
| 220 | SAXON | 80 | DPWA | $\pi^- p \rightarrow \Lambda K^0$ |
| 310± 50 | HOEHLER | 79 | IPWA | $\pi N \rightarrow \pi N$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 761±139 | BATINIC | 95 | DPWA | $\pi N \rightarrow N\pi,\ N\eta$ |

## *N*(2200) POLE POSITION

### REAL PART

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 2100±60 | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |

### −2×IMAGINARY PART

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 360±80 | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |

## *N*(2200) ELASTIC POLE RESIDUE

### MODULUS $|r|$

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 20±10 | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |

### PHASE $\theta$

| *VALUE* (°) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| −90±50 | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |

## *N*(2200) DECAY MODES

| | Mode |
|---|---|
| $\Gamma_1$ | $N\pi$ |
| $\Gamma_2$ | $N\eta$ |
| $\Gamma_3$ | $\Lambda K$ |

## *N*(2200) BRANCHING RATIOS

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

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| $0.10\pm0.03$ | CUTKOSKY | 80 | IPWA | $\pi N \rightarrow \pi N$ |
| $0.07\pm0.02$ | HOEHLER | 79 | IPWA | $\pi N \rightarrow \pi N$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| $0.08\pm0.04$ | BATINIC | 95 | DPWA | $\pi N \rightarrow N\pi,\ N\eta$ |

### $\Gamma(N\eta)/\Gamma_{total}$ $\Gamma_2/\Gamma$

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| $0.001\pm0.01$ | BATINIC | 95 | DPWA | $\pi N \rightarrow N\pi,\ N\eta$ |

### $(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ in $N\pi \rightarrow N(2200) \rightarrow N\eta$ $(\Gamma_1\Gamma_2)^{1/2}/\Gamma$

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| 0.066 | BAKER | 79 | DPWA | $\pi^- p \rightarrow n\eta$ |

### $(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ in $N\pi \rightarrow N(2200) \rightarrow \Lambda K$ $(\Gamma_1\Gamma_3)^{1/2}/\Gamma$

| VALUE | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| $-0.03$ | BELL | 83 | DPWA | $\pi^- p \rightarrow \Lambda K^0$ |
| $-0.05$ | SAXON | 80 | DPWA | $\pi^- p \rightarrow \Lambda K^0$ |

## *N*(2200) REFERENCES


| | | | | |
|---|---|---|---|---|
| BATINIC | 95 | PR C51 2310 | +Slaus, Svarc, Nefkens | (BOSK, UCLA) |
| BELL | 83 | NP B222 389 | +Blissett, Broome, Daley, Hart, Lintern+ | (RL) IJP |
| CUTKOSKY | 80 | Toronto Conf. 19 | +Forsyth, Babcock, Kelly, Hendrick | (CMU, LBL) IJP |
| Also | 79 | PR D20 2839 | Cutkosky, Forsyth, Hendrick, Kelly | (CMU, LBL) |
| SAXON | 80 | NP B162 522 | +Baker, Bell, Blissett, Bloodworth+ | (RHEL, BRIS) IJP |
| BAKER | 79 | NP B156 93 | +Brown, Clark, Davies, Depagter, Evans+ | (RHEL) IJP |
| HOEHLER | 79 | PDAT 12-1 | +Kaiser, Koch, Pietarinen | (KARLT) IJP |
| Also | 80 | Toronto Conf. 3 | Koch | (KARLT) IJP |