# $N(\sim 3000$ Region) Partial-Wave Analyses

OMITTED FROM SUMMARY TABLE

We list here miscellaneous high-mass candidates for isospin-1/2 resonances found in partial-wave analyses.

Our 1982 edition had an $N(3245)$, an $N(3690)$, and an $N(3755)$, each a narrow peak seen in a production experiment. Since nothing has been heard from them since the 1960's, we declare them to be dead. There was also an $N(3030)$, deduced from total cross-section and 180° elastic cross-section measurements; it is the KOCH 80 $L_{1,15}$ state below.

## $N(\sim 3000)$ BREIT-WIGNER MASS

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| **≈ 3000 OUR ESTIMATE** | | | | |
| 2600 | KOCH | 80 | IPWA | $\pi N \rightarrow \pi N$ $D_{13}$ |
| 3100 | KOCH | 80 | IPWA | $\pi N \rightarrow \pi N$ $L_{1,15}$ wave |
| 3500 | KOCH | 80 | IPWA | $\pi N \rightarrow \pi N$ $M_{1,17}$ wave |
| 3500 to 4000 | KOCH | 80 | IPWA | $\pi N \rightarrow \pi N$ $N_{1,19}$ wave |
| 3500 ± 200 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $L_{1,15}$ wave |
| 3800 ± 200 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $M_{1,17}$ wave |
| 4100 ± 200 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $N_{1,19}$ wave |

## $N(\sim 3000)$ BREIT-WIGNER WIDTH

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 1300 ± 200 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $L_{1,15}$ wave |
| 1600 ± 200 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $M_{1,17}$ wave |
| 1900 ± 300 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $N_{1,19}$ wave |

## $N(\sim 3000)$ DECAY MODES

| | Mode |
|---|---|
| $\Gamma_1$ | $N\pi$ |

## $N(\sim 3000)$ BRANCHING RATIOS

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

| *VALUE* | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 0.055 ± 0.02 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $L_{1,15}$ wave |
| 0.040 ± 0.015 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $M_{1,17}$ wave |
| 0.030 ± 0.015 | HENDRY | 78 | MPWA | $\pi N \rightarrow \pi N$ $N_{1,19}$ wave |

## *N*(~ 3000) REFERENCES


| | | | | |
|---|---|---|---|---|
| KOCH | 80 | Toronto Conf. 3 | | (KARLT) IJP |
| HENDRY | 78 | PRL 41 222 | | (IND, LBL) IJP |
| Also | 81 | ANP 136 1 | Hendry | (IND) IJP |