

N(~ 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(~ 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(~ 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(~ 3000) DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad N\pi$	2–8 %

N(~ 3000) BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	Γ_1/Γ
2–8 % OUR ESTIMATE				
6 ± 2	HENDRY	78	MPWA $\pi N \rightarrow \pi N L_{1,15}$ wave	
4.0 ± 1.5	HENDRY	78	MPWA $\pi N \rightarrow \pi N M_{1,17}$ wave	
3.0 ± 1.5	HENDRY	78	MPWA $\pi N \rightarrow \pi N N_{1,19}$ wave	

$N(\sim 3000)$ REFERENCES

KOCH	80	Toronto Conf. 3	R. Koch	(KARLT) IJP
HENDRY	78	PRL 41 222	A.W. Hendry	(IND, LBL) IJP
Also		ANP 136 1	A.W. Hendry	(IND) IJP
