

$\Delta(\sim 3000 \text{ Region})$
Partial-Wave Analyses

OMITTED FROM SUMMARY TABLE

We list here miscellaneous high-mass candidates for isospin-3/2 resonances found in partial-wave analyses.

Our 1982 edition also had a $\Delta(2850)$ and a $\Delta(3230)$. The evidence for them was deduced from total cross-section and 180° elastic cross-section measurements. The $\Delta(2850)$ has been resolved into the $\Delta(2750) I_{3,13}$ and $\Delta(2950) K_{3,15}$. The $\Delta(3230)$ is perhaps related to the $K_{3,13}$ of HENDRY 78 and to the $L_{3,17}$ of KOCH 80.

$\Delta(\sim 3000)$ BREIT-WIGNER MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
3300	¹ KOCH	80	IPWA $\pi N \rightarrow \pi N$ $L_{3,17}$ wave
3500	¹ KOCH	80	IPWA $\pi N \rightarrow \pi N$ $M_{3,19}$ wave
2850 ± 150	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $I_{3,11}$ wave
3200 ± 200	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $K_{3,13}$ wave
3300 ± 200	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $L_{3,17}$ wave
3700 ± 200	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $M_{3,19}$ wave
4100 ± 300	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $N_{3,21}$ wave

$\Delta(\sim 3000)$ BREIT-WIGNER WIDTH

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
700 ± 200	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $I_{3,11}$ wave
1000 ± 300	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $K_{3,13}$ wave
1100 ± 300	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $L_{3,17}$ wave
1300 ± 400	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $M_{3,19}$ wave
1600 ± 500	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $N_{3,21}$ wave

$\Delta(\sim 3000)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 \quad N\pi$	1–8%

$\Delta(\sim 3000)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$				Γ_1/Γ
VALUE (%)	DOCUMENT ID	TECN	COMMENT	
1–8% OUR ESTIMATE				
6 ± 2	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $I_{3,11}$ wave	
5 ± 2	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $K_{3,13}$ wave	

3 ± 1	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $L_{3,17}$ wave
3 ± 1	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $M_{3,19}$ wave
2 ± 1	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $N_{3,21}$ wave

$\Delta(\sim 3000)$ FOOTNOTES

¹In addition, KOCH 80 reports some evidence for an S_{31} $\Delta(2700)$ and a P_{33} $\Delta(2800)$.

$\Delta(\sim 3000)$ 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)