

# $\Delta$ ( $\sim 3000$ 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  $180^\circ$  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

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>\approx 3000</math> OUR ESTIMATE</b>			
3300	<sup>1</sup> KOCH	80	IPWA $\pi N \rightarrow \pi N$ $L_{3,17}$ wave
3500	<sup>1</sup> KOCH	80	IPWA $\pi N \rightarrow \pi N$ $M_{3,19}$ wave
$2850 \pm 150$	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $I_{3,11}$ wave
$3200 \pm 200$	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $K_{3,13}$ wave
$3300 \pm 200$	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $L_{3,17}$ wave
$3700 \pm 200$	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $M_{3,19}$ wave
$4100 \pm 300$	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $N_{3,21}$ wave

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

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

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

Mode
$\Gamma_1 \quad N\pi$

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

$\Gamma(N\pi)/\Gamma_{\text{total}}$				$\Gamma_1/\Gamma$
<i>VALUE</i>	<i>DOCUMENT ID</i>	<i>TECN</i>	<i>COMMENT</i>	
0.06 ± 0.02	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $I_{3,11}$ wave	
0.045 ± 0.02	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $K_{3,13}$ wave	
0.03 ± 0.01	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $L_{3,17}$ wave	
0.025 ± 0.01	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $M_{3,19}$ wave	
0.018 ± 0.01	HENDRY	78	MPWA $\pi N \rightarrow \pi N$ $N_{3,21}$ wave	

## $\Delta(\sim 3000)$ FOOTNOTES

<sup>1</sup> In 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)