$\Delta(\sim 3000$ 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° 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*
≈ 3000 OUR ESTIMATE				
3300	[1] KOCH	80	IPWA	$\pi N \to \pi N$ $L_{3,17}$ wave
3500	[1] KOCH	80	IPWA	$\pi N \to \pi N$ $M_{3,19}$ wave
2850±150	HENDRY	78	MPWA	$\pi N \to \pi N$ $I_{3,11}$ wave
3200±200	HENDRY	78	MPWA	$\pi N \to \pi N$ $K_{3,13}$ wave
3300±200	HENDRY	78	MPWA	$\pi N \to \pi N$ $L_{3,17}$ wave
3700±200	HENDRY	78	MPWA	$\pi N \to \pi N$ $M_{3,19}$ wave
4100±300	HENDRY	78	MPWA	$\pi N \to \pi N$ $N_{3,21}$ wave

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

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

$\Delta(\sim 3000)$ DECAY MODES

	Mode
Γ_1	$N\pi$

$\Delta(\sim 3000)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{total}$ — Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$0.06\ \pm 0.02$	HENDRY	78	MPWA	$\pi N \to \pi N\ I_{3,11}$ wave
0.045 ± 0.02	HENDRY	78	MPWA	$\pi N \to \pi N\ K_{3,13}$ wave
$0.03\ \pm 0.01$	HENDRY	78	MPWA	$\pi N \to \pi N\ L_{3,17}$ wave
0.025 ± 0.01	HENDRY	78	MPWA	$\pi N \to \pi N\ M_{3,19}$ wave
0.018 ± 0.01	HENDRY	78	MPWA	$\pi N \to \pi N\ N_{3,21}$ wave

$\Delta(\sim 3000)$ FOOTNOTES

[1] 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	81	ANP 136 1	A.W. Hendry	(IND)