$\Delta(1750)$ P_{31}

$I(J^P) = \frac{3}{2}(\frac{1}{2}^+)$ Status: *

OMITTED FROM SUMMARY TABLE

$\Delta(1750)$ BREIT-WIGNER MASS

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
≈ 1750 OUR ESTIMATE				
1744 ±36	MANLEY	92	IPWA	$\pi N \rightarrow \pi N$ & $N\pi\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1721 ±61	VRANA	00		Multichannel
1715.2±21.0	[1] CHEW	80	BPWA	$\pi^+ p \rightarrow \pi^+ p$
1778.4± 9.0	[1] CHEW	80	BPWA	$\pi^+ p \rightarrow \pi^+ p$

$\Delta(1750)$ BREIT-WIGNER WIDTH

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
300 ±120	MANLEY	92	IPWA	$\pi N \rightarrow \pi N$ & $N\pi\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
70 ± 50	VRANA	00		Multichannel
93.3± 55.0	[1] CHEW	80	BPWA	$\pi^+ p \rightarrow \pi^+ p$
23.0± 29.0	[1] CHEW	80	BPWA	$\pi^+ p \rightarrow \pi^+ p$

$\Delta(1750)$ POLE POSITION

REAL PART

VALUE (MeV)	*DOCUMENT ID*		*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •			
1714	VRANA	00	Multichannel

−2×IMAGINARY PART

VALUE (MeV)	*DOCUMENT ID*		*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •			
68	VRANA	00	Multichannel

$\Delta(1750)$ DECAY MODES

	Mode
Γ_1	$N\pi$
Γ_2	$N\pi\pi$
Γ_3	$N(1440)\pi$

Δ(1750) BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{total}$ **Γ_1/Γ**

VALUE	DOCUMENT ID		TECN	COMMENT
0.08±0.03	MANLEY	92	IPWA	$\pi N \to \pi N$ & $N\pi\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.06±0.09	VRANA	00		Multichannel
0.18	[1] CHEW	80	BPWA	$\pi^+ p \to \pi^+ p$
0.20	[1] CHEW	80	BPWA	$\pi^+ p \to \pi^+ p$

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ in $N\pi \to \Delta(1700) \to N(1440)\pi$ **$(\Gamma_1\Gamma_3)^{1/2}/\Gamma$**

VALUE	DOCUMENT ID		TECN	COMMENT
+0.15±0.03	MANLEY	92	IPWA	$\pi N \to \pi N$ & $N\pi\pi$

Δ(1750) FOOTNOTES

[1] CHEW 80 reports four resonances in the P_{31} wave — see also the Δ(1910). Problems with this analysis are discussed in section 2.1.11 of HOEHLER 83.

Δ(1750) REFERENCES

VRANA	00	PRPL 328 181	T.P. Vrana, S.A. Dytman,, T.-S.H. Lee	
MANLEY	92	PR D45 4002	D.M. Manley, E.M. Saleski	(KENT)
Also	84	PR D30 904	D.M. Manley *et al.*	(VPI)
HOEHLER	83	Landolt-Boernstein 1/9B2	G. Hohler	(KARLT)
CHEW	80	Toronto Conf. 123	D.M. Chew	(LBL)