$\Delta(1750)$ 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	$\pi N \to \pi N$ & $N\pi\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1715.2±21.0	[1] CHEW	80	BPWA	$\pi^+ p \to \pi^+ p$
1778.4± 9.0	[1] CHEW	80	BPWA	$\pi^+ p \to \pi^+ p$

$\Delta(1750)$ BREIT-WIGNER WIDTH

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

$\Delta(1750)$ DECAY MODES

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

$\Gamma(N\pi)/\Gamma_{total}$ — 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. • • •				
0.18	[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	$\pi N \to \pi N$ & $N\pi\pi$

$\Delta(1750)$ FOOTNOTES

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

Δ(1750) REFERENCES

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)