

**$\Delta(1750) P_{31}$**

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

OMITTED FROM SUMMARY TABLE

**$\Delta(1750)$  BREIT-WIGNER MASS**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>\approx 1750</math> OUR ESTIMATE</b>			
1744 $\pm 36$	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
1712 $\pm 1$	PENNER	02C	DPWA Multichannel
1721 $\pm 61$	VRANA	00	DPWA Multichannel
1715.2 $\pm 21.0$	<sup>1</sup> CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$
1778.4 $\pm 9.0$	<sup>1</sup> CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$

**$\Delta(1750)$  BREIT-WIGNER WIDTH**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
300 $\pm 120$	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
643 $\pm 17$	PENNER	02C	DPWA Multichannel
70 $\pm 50$	VRANA	00	DPWA Multichannel
93.3 $\pm 55.0$	<sup>1</sup> CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$
23.0 $\pm 29.0$	<sup>1</sup> CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$

**$\Delta(1750)$  POLE POSITION**

**REAL PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
1714	VRANA	00	DPWA Multichannel

**-2xIMAGINARY PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
68	VRANA	00	DPWA Multichannel

**$\Delta(1750)$  DECAY MODES**

Mode
$\Gamma_1$ $N\pi$
$\Gamma_2$ $N\pi\pi$
$\Gamma_3$ $N(1440)\pi$
$\Gamma_4$ $\Sigma K$

## Δ(1750) BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$\Gamma_1/\Gamma$
	0.08±0.03	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
	0.01±0.01	PENNER	02C	DPWA Multichannel	
	0.06±0.09	VRANA	00	DPWA Multichannel	
	0.18	<sup>1</sup> CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$	
	0.20	<sup>1</sup> CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$	

$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow \Delta(1700) \rightarrow N(1440)\pi$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$(\Gamma_1 \Gamma_3)^{1/2}/\Gamma$
	+0.15±0.03	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$	

$\Gamma(N(1440)\pi)/\Gamma_{\text{total}}$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$\Gamma_3/\Gamma$
	0.83±0.01	VRANA	00	DPWA Multichannel	

$\Gamma(\Sigma K)/\Gamma_{\text{total}}$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$\Gamma_4/\Gamma$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
	0.001±0.001	PENNER	02C	DPWA Multichannel	

## Δ(1750) PHOTON DECAY AMPLITUDES

### Δ(1750) → Nγ, helicity-1/2 amplitude A<sub>1/2</sub>

$\text{VALUE (GeV}^{-1/2}\text{)}$	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
0.053	PENNER	02D	DPWA Multichannel

## Δ(1750) FOOTNOTES

<sup>1</sup> 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

PENNER	02C	PR C66 055211	G. Penner, U. Mosel	(GIES)
PENNER	02D	PR C66 055212	G. Penner, U. Mosel	(GIES)
VRANA	00	PRPL 328 181	T.P. Vrana, S.A. Dytman., T.-S.H. Lee	(PITT+)
MANLEY	92	PR D45 4002	D.M. Manley, E.M. Saleski	(KENT)
Also	84	PR D30 904	D.M. Manley <i>et al.</i>	(VPI)
HOEHLER	83	Landolt-Boernstein 1/9B2	G. Hohler	(KARLT)
CHEW	80	Toronto Conf. 123	D.M. Chew	(LBL)