# $\Delta(1750)\ 1/2^+$

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

OMITTED FROM SUMMARY TABLE

## Δ(1750) POLE POSITION

### REAL PART

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 1748 | ARNDT | 04 | DPWA | $\pi N \to \pi N$, $\eta N$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 1714 | VRANA | 00 | DPWA | Multichannel |

### −2×IMAGINARY PART

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 524 | ARNDT | 04 | DPWA | $\pi N \to \pi N$, $\eta N$ |
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 68 | VRANA | 00 | DPWA | Multichannel |

## Δ(1750) ELASTIC POLE RESIDUE

### MODULUS $|r|$

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 48 | ARNDT | 04 | DPWA | $\pi N \to \pi N$, $\eta N$ |

### PHASE $\theta$

| *VALUE* (°) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| 158 | ARNDT | 04 | DPWA | $\pi N \to \pi N$, $\eta N$ |

## Δ(1750) BREIT-WIGNER MASS

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 1712± 1 | PENNER | 02C | DPWA | Multichannel |
| 1721±61 | VRANA | 00 | DPWA | Multichannel |

## Δ(1750) BREIT-WIGNER WIDTH

| *VALUE* (MeV) | *DOCUMENT ID* | | *TECN* | *COMMENT* |
|---|---|---|---|---|
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 643±17 | PENNER | 02C | DPWA | Multichannel |
| 70±50 | VRANA | 00 | DPWA | Multichannel |

## Δ(1750) DECAY MODES

| | Mode | Fraction ($\Gamma_i/\Gamma$) |
|---|---|---|
| $\Gamma_1$ | $N\pi$ | seen |
| $\Gamma_2$ | $N\pi\pi$ | |
| $\Gamma_3$ | $N(1440)\pi$ | seen |
| $\Gamma_4$ | $\Sigma K$ | seen |

## Δ(1750) BRANCHING RATIOS

### $\Gamma(N\pi)/\Gamma_{total}$ $\Gamma_1/\Gamma$

| VALUE (%) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 1±1 | PENNER | 02C | DPWA | Multichannel |
| 6±9 | VRANA | 00 | DPWA | Multichannel |

### $\Gamma(N(1440)\pi)/\Gamma_{total}$ $\Gamma_3/\Gamma$

| VALUE (%) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 83±1 | VRANA | 00 | DPWA | Multichannel |

### $\Gamma(\Sigma K)/\Gamma_{total}$ $\Gamma_4/\Gamma$

| VALUE (%) | DOCUMENT ID | | TECN | COMMENT |
|---|---|---|---|---|
| • • • We do not use the following data for averages, fits, limits, etc. • • • | | | | |
| 0.1±0.1 | PENNER | 02C | DPWA | Multichannel |

## Δ(1750) BREIT-WIGNER PHOTON DECAY AMPLITUDES

Papers on $\gamma N$ amplitudes predating 1981 may be found in our 2006 edition, Journal of Physics **G33** 1 (2006).

### Δ(1750) → $N\gamma$, helicity-1/2 amplitude $A_{1/2}$

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

## Δ(1750) REFERENCES


| | | | | |
|---|---|---|---|---|
| PDG | 06 | JP G33 1 | W.-M. Yao *et al.* | (PDG Collab.) |
| ARNDT | 04 | PR C69 035213 | R.A. Arndt *et al.* | (GWU, TRIU) |
| 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, ANL) |