

**$\Delta(2400) G_{39}$**

$I(J^P) = \frac{3}{2}(\frac{9}{2}^-)$  Status: \*\*

OMITTED FROM SUMMARY TABLE

**$\Delta(2400)$  BREIT-WIGNER MASS**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>\approx 2400</math> OUR ESTIMATE</b>			
2643 $\pm$ 141	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$
2300 $\pm$ 100	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
2468 $\pm$ 50	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
2200 $\pm$ 100	HENDRY	78	MPWA $\pi N \rightarrow \pi N$

**$\Delta(2400)$  BREIT-WIGNER WIDTH**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
895 $\pm$ 432	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$
330 $\pm$ 100	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
480 $\pm$ 100	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
450 $\pm$ 200	HENDRY	78	MPWA $\pi N \rightarrow \pi N$

**$\Delta(2400)$  POLE POSITION**

**REAL PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
1983	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$
2260 $\pm$ 60	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

**- 2xIMAGINARY PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
878	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$
320 $\pm$ 160	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

**$\Delta(2400)$  ELASTIC POLE RESIDUE**

**MODULUS  $|r|$**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
24	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$
8 $\pm$ 4	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

**PHASE  $\theta$**

<u>VALUE (<math>^\circ</math>)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
- 139	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$
- 25 $\pm$ 15	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

## $\Delta(2400)$ DECAY MODES

Mode
$\Gamma_1$ $N\pi$
$\Gamma_2$ $\Sigma K$

## $\Delta(2400)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$	DOCUMENT ID	TECN	COMMENT	$\Gamma_1/\Gamma$
$0.064 \pm 0.022$	ARNDT	06	DPWA $\pi N \rightarrow \pi N, \eta N$	
$0.05 \pm 0.02$	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$	
$0.06 \pm 0.03$	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$	
$0.10 \pm 0.03$	HENDRY	78	MPWA $\pi N \rightarrow \pi N$	

$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow \Delta(2400) \rightarrow \Sigma K$	DOCUMENT ID	TECN	COMMENT	$(\Gamma_1 \Gamma_2)^{1/2}/\Gamma$
$< 0.015$	CANDLIN	84	DPWA $\pi^+ p \rightarrow \Sigma^+ K^+$	

## $\Delta(2400)$ REFERENCES

ARNDT	06	PR C74 045205	R.A. Arndt <i>et al.</i>	
CANDLIN	84	NP B238 477	D.J. Candlin <i>et al.</i>	(GWU)
CUTKOSKY	80	Toronto Conf. 19	R.E. Cutkosky <i>et al.</i>	(EDIN, RAL, LOWC)
Also		PR D20 2839	R.E. Cutkosky <i>et al.</i>	(CMU, LBL) IJP
HOEHLER	79	PDAT 12-1	G. Hohler <i>et al.</i>	(CMU, LBL)
Also		Toronto Conf. 3	R. Koch	(KARLT) IJP
HENDRY	78	PRL 41 222	A.W. Hendry	(KARLT) IJP
Also		ANP 136 1	A.W. Hendry	(IND, LBL) IJP
				(IND)