

$\Delta(2350) 5/2^-$  $I(J^P) = \frac{3}{2}(\frac{5}{2}^-)$  Status: \*

OMITTED FROM SUMMARY TABLE

The latest GWU analysis (ARNDT 06) finds no evidence for this resonance.

 **$\Delta(2350)$  BREIT-WIGNER MASS**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>\approx 2350</math> OUR ESTIMATE</b>			
2171 $\pm$ 18	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$
2400 $\pm$ 125	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
2305 $\pm$ 26	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
2459 $\pm$ 100	VRANA	00	DPWA Multichannel

 **$\Delta(2350)$  BREIT-WIGNER WIDTH**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
264 $\pm$ 51	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$
400 $\pm$ 150	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
300 $\pm$ 70	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
480 $\pm$ 360	VRANA	00	DPWA Multichannel

 **$\Delta(2350)$  POLE POSITION****REAL PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
2400 $\pm$ 125	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
2427	VRANA	00	DPWA Multichannel

**-2×IMAGINARY PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
400 $\pm$ 150	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
458	VRANA	00	DPWA Multichannel

 **$\Delta(2350)$  ELASTIC POLE RESIDUE****MODULUS  $|r|$** 

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
15 $\pm$ 8	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>
$-70 \pm 70$	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$

### $\Delta(2350)$ DECAY MODES

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

### $\Delta(2350)$ BRANCHING RATIOS

<u><math>\Gamma(N\pi)/\Gamma_{\text{total}}</math></u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	<u><math>\Gamma_1/\Gamma</math></u>
$2.0 \pm 0.3$	MANLEY 92	IPWA	$\pi N \rightarrow \pi N \text{ \& } N\pi\pi$	
$20 \pm 10$	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$	
$4 \pm 2$	HOEHLER 79	IPWA	$\pi N \rightarrow \pi N$	
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
$7 \pm 14$	VRANA 00	DPWA	Multichannel	

<u><math>(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}</math> in <math>N\pi \rightarrow \Delta(2350) \rightarrow \Sigma K</math></u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	<u><math>(\Gamma_1 \Gamma_2)^{1/2}/\Gamma</math></u>
$< 0.015$	CANDLIN 84	DPWA	$\pi^+ p \rightarrow \Sigma^+ K^+$	

### $\Delta(2350)$ REFERENCES

ARNDT 06	PR C74 045205	R.A. Arndt <i>et al.</i>	(GWU)
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) IJP
Also	PR D30 904	D.M. Manley <i>et al.</i>	(VPI)
CANDLIN 84	NP B238 477	D.J. Candlin <i>et al.</i>	(EDIN, RAL, LOWC)
CUTKOSKY 80	Toronto Conf. 19	R.E. Cutkosky <i>et al.</i>	(CMU, LBL) IJP
Also	PR D20 2839	R.E. Cutkosky <i>et al.</i>	(CMU, LBL)
HOEHLER 79	PDAT 12-1	G. Hohler <i>et al.</i>	(KARLT) IJP
Also	Toronto Conf. 3	R. Koch	(KARLT) IJP