

$\Delta(2200) G_{37}$

$$I(J^P) = \frac{3}{2}(\frac{7}{2}^-) \text{ Status: } *$$

OMITTED FROM SUMMARY TABLE

The various analyses are not in good agreement.

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

 $\Delta(2200)$ BREIT-WIGNER MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
≈ 2200 OUR ESTIMATE			
2200 ± 80	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$
2215 ± 60	HOEHLER 79	IPWA	$\pi N \rightarrow \pi N$
2280 ± 80	HENDRY 78	MPWA	$\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
2280 ± 40	CANDLIN 84	DPWA	$\pi^+ p \rightarrow \Sigma^+ K^+$

 $\Delta(2200)$ BREIT-WIGNER WIDTH

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
450 ± 100	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$
400 ± 100	HOEHLER 79	IPWA	$\pi N \rightarrow \pi N$
400 ± 150	HENDRY 78	MPWA	$\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
400 ± 50	CANDLIN 84	DPWA	$\pi^+ p \rightarrow \Sigma^+ K^+$

 $\Delta(2200)$ POLE POSITION**REAL PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
2100 ± 50	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$

-2×IMAGINARY PART

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
340 ± 80	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$

 $\Delta(2200)$ ELASTIC POLE RESIDUE**MODULUS $|r|$**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
8 ± 3	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$

PHASE θ

<u>VALUE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
-70 ± 40	CUTKOSKY 80	IPWA	$\pi N \rightarrow \pi N$

$\Delta(2200)$ DECAY MODES

Mode
Γ_1 $N\pi$
Γ_2 ΣK

$\Delta(2200)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$	<i>DOCUMENT ID</i>	<i>TECN</i>	<i>COMMENT</i>	Γ_1/Γ
0.06 ± 0.02	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$	
0.05 ± 0.02	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$	
0.09 ± 0.02	HENDRY	78	MPWA $\pi N \rightarrow \pi N$	

$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow \Delta(2200) \rightarrow \Sigma K$	<i>DOCUMENT ID</i>	<i>TECN</i>	<i>COMMENT</i>	$(\Gamma_1 \Gamma_2)^{1/2}/\Gamma$
−0.014 ± 0.005	CANDLIN	84	DPWA $\pi^+ p \rightarrow \Sigma^+ K^+$	

$\Delta(2200)$ 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) IJP
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)