

$\Delta(2200) 7/2^-$ $I(J^P) = \frac{3}{2}(\frac{7}{2}^-)$ 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 \pm 80	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
2215 \pm 60	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
2280 \pm 80	HENDRY	78	MPWA $\pi N \rightarrow \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
2280 \pm 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 \pm 100	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
400 \pm 100	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
400 \pm 150	HENDRY	78	MPWA $\pi N \rightarrow \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •			
400 \pm 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 \pm 50	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

-2 \times IMAGINARY PART

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
340 \pm 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 \pm 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 \pm 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

$\Gamma(N\pi)/\Gamma_{\text{total}}$	Γ_1/Γ
VALUE (%)	DOCUMENT ID TECN COMMENT
6 ± 2	CUTKOSKY 80 IPWA $\pi N \rightarrow \pi N$
5 ± 2	HOEHLER 79 IPWA $\pi N \rightarrow \pi N$
9 ± 2	HENDRY 78 MPWA $\pi N \rightarrow \pi N$

$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow \Delta(2200) \rightarrow \Sigma K$	$(\Gamma_1 \Gamma_2)^{1/2}/\Gamma$
VALUE	DOCUMENT ID TECN COMMENT
-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)