$\Delta(2200)$ G_{37}

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

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

$\Delta(2200)$ BREIT-WIGNER WIDTH

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

$\Delta(2200)$ POLE POSITION

REAL PART

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
2100±50	CUTKOSKY	80	IPWA	$\pi N \to \pi N$

−2×IMAGINARY PART

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
340±80	CUTKOSKY	80	IPWA	$\pi N \to \pi N$

$\Delta(2200)$ ELASTIC POLE RESIDUE

MODULUS $|r|$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
8±3	CUTKOSKY	80	IPWA	$\pi N \to \pi N$

PHASE θ

VALUE (°)	*DOCUMENT ID*		*TECN*	*COMMENT*
−70±40	CUTKOSKY	80	IPWA	$\pi N \to \pi N$

Δ(2200) DECAY MODES

	Mode
Γ_1	$N\pi$
Γ_2	ΣK

Δ(2200) BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{total}$ Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
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	$\pi N \rightarrow \pi N$

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ 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	$\pi^+ p \rightarrow \Sigma^+ K^+$

Δ(2200) REFERENCES

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