$N(2200)\ D_{15}$

$I(J^P) = \frac{1}{2}(\frac{5}{2}^-)$ Status: $\ast\ast$

OMITTED FROM SUMMARY TABLE

The mass is not well determined. A few early results have been omitted.

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

$N(2200)$ BREIT-WIGNER MASS

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
$\approx$ **2200 OUR ESTIMATE**				
1900	BELL	83	DPWA	$\pi^- p \to \Lambda K^0$
2180 ± 80	CUTKOSKY	80	IPWA	$\pi N \to \pi N$
1920	SAXON	80	DPWA	$\pi^- p \to \Lambda K^0$
2228 ± 30	HOEHLER	79	IPWA	$\pi N \to \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2217 ± 27	BATINIC	10	DPWA	$\pi N \to N\pi, N\eta$

$N(2200)$ BREIT-WIGNER WIDTH

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
130	BELL	83	DPWA	$\pi^- p \to \Lambda K^0$
400 ± 100	CUTKOSKY	80	IPWA	$\pi N \to \pi N$
220	SAXON	80	DPWA	$\pi^- p \to \Lambda K^0$
310 ± 50	HOEHLER	79	IPWA	$\pi N \to \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
481 ± 17	BATINIC	10	DPWA	$\pi N \to N\pi, N\eta$

$N(2200)$ POLE POSITION

REAL PART

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
2100 ± 60	CUTKOSKY	80	IPWA	$\pi N \to \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2144 ± 31	BATINIC	10	DPWA	$\pi N \to N\pi, N\eta$

$-2\times$IMAGINARY PART

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
360 ± 80	CUTKOSKY	80	IPWA	$\pi N \to \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
438 ± 13	BATINIC	10	DPWA	$\pi N \to N\pi, N\eta$

N(2200) ELASTIC POLE RESIDUE

MODULUS |*r*|

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
20±10	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
26	BATINIC	10	DPWA	$\pi N \rightarrow N\pi, N\eta$

PHASE θ

VALUE (°)	DOCUMENT ID		TECN	COMMENT
−90±50	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
−71	BATINIC	10	DPWA	$\pi N \rightarrow N\pi, N\eta$

N(2200) DECAY MODES

	Mode	
Γ_1	$N\pi$	
Γ_2	$N\eta$	
Γ_3	ΛK	

N(2200) BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{total}$ Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.10±0.03	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$
0.07±0.02	HOEHLER	79	IPWA	$\pi N \rightarrow \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.13±0.04	BATINIC	10	DPWA	$\pi N \rightarrow N\pi, N\eta$

$\Gamma(N\eta)/\Gamma_{total}$ Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.002±0.010	BATINIC	10	DPWA	$\pi N \rightarrow N\pi, N\eta$

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ in $N\pi \rightarrow N(2200) \rightarrow N\eta$ $(\Gamma_1\Gamma_2)^{1/2}/\Gamma$

VALUE	DOCUMENT ID		TECN	COMMENT
0.066	BAKER	79	DPWA	$\pi^- p \rightarrow n\eta$

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ in $N\pi \rightarrow N(2200) \rightarrow \Lambda K$ $(\Gamma_1\Gamma_3)^{1/2}/\Gamma$

VALUE	DOCUMENT ID		TECN	COMMENT
−0.03	BELL	83	DPWA	$\pi^- p \rightarrow \Lambda K^0$
−0.05	SAXON	80	DPWA	$\pi^- p \rightarrow \Lambda K^0$

N(2200) REFERENCES

BATINIC	10	PR C82 038203	M. Batinic *et al.*	(ZAGR)
ARNDT	06	PR C74 045205	R.A. Arndt *et al.*	(GWU)
BELL	83	NP B222 389	K.W. Bell *et al.*	(RL) IJP
CUTKOSKY	80	Toronto Conf. 19	R.E. Cutkosky *et al.*	(CMU, LBL) IJP
Also		PR D20 2839	R.E. Cutkosky *et al.*	(CMU, LBL)
SAXON	80	NP B162 522	D.H. Saxon *et al.*	(RHEL, BRIS) IJP
BAKER	79	NP B156 93	R.D. Baker *et al.*	(RHEL) IJP
HOEHLER	79	PDAT 12-1	G. Hohler *et al.*	(KARLT) IJP
Also		Toronto Conf. 3	R. Koch	(KARLT) IJP