

# N(2200) $D_{15}$

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

OMITTED FROM SUMMARY TABLE

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

## N(2200) BREIT-WIGNER MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b>≈ 2200 OUR ESTIMATE</b>			
1900	BELL	83	DPWA $\pi^- p \rightarrow \Lambda K^0$
2180 ± 80	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
1920	SAXON	80	DPWA $\pi^- p \rightarrow \Lambda K^0$
2228 ± 30	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
2240 ± 65	BATINIC	95	DPWA $\pi N \rightarrow N\pi, N\eta$

## N(2200) BREIT-WIGNER WIDTH

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
130	BELL	83	DPWA $\pi^- p \rightarrow \Lambda K^0$
400 ± 100	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
220	SAXON	80	DPWA $\pi^- p \rightarrow \Lambda K^0$
310 ± 50	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
761 ± 139	BATINIC	95	DPWA $\pi N \rightarrow N\pi, N\eta$

## N(2200) POLE POSITION

### REAL PART

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
2100 ± 60	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>
360 ± 80	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

## N(2200) ELASTIC POLE RESIDUE

### MODULUS $|r|$

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
20 ± 10	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

### PHASE $\theta$

<u>VALUE (°)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
− 90 ± 50	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

## N(2200) DECAY MODES

Mode
$\Gamma_1$ $N\pi$
$\Gamma_2$ $N\eta$
$\Gamma_3$ $\Lambda K$

## N(2200) BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$\Gamma_1/\Gamma$
	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. ● ● ●					
	0.08±0.04	BATINIC	95	DPWA $\pi N \rightarrow N\pi, N\eta$	

$\Gamma(N\eta)/\Gamma_{\text{total}}$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$\Gamma_2/\Gamma$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●					
	0.001±0.01	BATINIC	95	DPWA $\pi N \rightarrow N\pi, N\eta$	

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow N(2200) \rightarrow N\eta$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$(\Gamma_1\Gamma_2)^{1/2}/\Gamma$
	0.066	BAKER	79	DPWA $\pi^- p \rightarrow n\eta$	

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow N(2200) \rightarrow \Lambda K$	<u>VALUE</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	$(\Gamma_1\Gamma_3)^{1/2}/\Gamma$
	-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	95	PR C51 2310	M. Batinic <i>et al.</i>	(BOSK, UCLA)
Also	98	PR C57 1004 (erratum)	M. Batinic <i>et al.</i>	
BELL	83	NP B222 389	K.W. Bell <i>et al.</i>	(RL) IJP
CUTKOSKY	80	Toronto Conf. 19	R.E. Cutkosky <i>et al.</i>	(CMU, LBL) IJP
Also	79	PR D20 2839	R.E. Cutkosky <i>et al.</i>	(CMU, LBL)
SAXON	80	NP B162 522	D.H. Saxon <i>et al.</i>	(RHEL, BRIS) IJP
BAKER	79	NP B156 93	R.D. Baker <i>et al.</i>	(RHEL) IJP
HOEHLER	79	PDAT 12-1	G. Hohler <i>et al.</i>	(KARLT) IJP
Also	80	Toronto Conf. 3	R. Koch	(KARLT) IJP