

**$N(2100) P_{11}$** 

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

OMITTED FROM SUMMARY TABLE

 **$N(2100)$  BREIT-WIGNER MASS**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
<b><math>\approx 2100</math> OUR ESTIMATE</b>			
$1885 \pm 30$	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$
$2125 \pm 75$	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
$2050 \pm 20$	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
$2203 \pm 70$	BATINIC	95	DPWA $\pi N \rightarrow N\pi, N\eta$

 **$N(2100)$  BREIT-WIGNER WIDTH**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$113 \pm 44$	MANLEY	92	IPWA $\pi N \rightarrow \pi N$ & $N\pi\pi$
$260 \pm 100$	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
$200 \pm 30$	HOEHLER	79	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
$418 \pm 171$	BATINIC	95	DPWA $\pi N \rightarrow N\pi, N\eta$

 **$N(2100)$  POLE POSITION****REAL PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$2120 \pm 40$	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
not seen	ARNDT	91	DPWA $\pi N \rightarrow \pi N$ Soln SM90

 **$-2 \times$ IMAGINARY PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$240 \pm 80$	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
not seen	ARNDT	91	DPWA $\pi N \rightarrow \pi N$ Soln SM90

 **$N(2100)$  ELASTIC POLE RESIDUE****MODULUS  $|r|$** 

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$14 \pm 7$	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

**PHASE  $\theta$** 

<u>VALUE (<math>^\circ</math>)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
$35 \pm 25$	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

## N(2100) DECAY MODES

Mode
$\Gamma_1$ $N\pi$
$\Gamma_2$ $N\eta$
$\Gamma_3$ $N\pi\pi$
$\Gamma_4$ $\Delta(1232)\pi, P\text{-wave}$

## N(2100) BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$	$\Gamma_1/\Gamma$
<u>VALUE</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
$0.15 \pm 0.06$	MANLEY    92    IPWA $\pi N \rightarrow \pi N \text{ \& } N\pi\pi$
$0.12 \pm 0.03$	CUTKOSKY    80    IPWA $\pi N \rightarrow \pi N$
$0.10 \pm 0.04$	HOEHLER    79    IPWA $\pi N \rightarrow \pi N$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●	
$0.11 \pm 0.07$	BATINIC    95    DPWA $\pi N \rightarrow N\pi, N\eta$

$\Gamma(N\eta)/\Gamma_{\text{total}}$	$\Gamma_2/\Gamma$
<u>VALUE</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●	
$0.86 \pm 0.07$	BATINIC    95    DPWA $\pi N \rightarrow N\pi, N\eta$

$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow N(2100) \rightarrow \Delta(1232)\pi, P\text{-wave}$	$(\Gamma_1 \Gamma_4)^{1/2}/\Gamma$
<u>VALUE</u>	<u>DOCUMENT ID</u> <u>TECN</u> <u>COMMENT</u>
$-0.19 \pm 0.08$	MANLEY    92    IPWA $\pi N \rightarrow \pi N \text{ \& } N\pi\pi$

## N(2100) REFERENCES

BATINIC	95	PR C51 2310	+Slaus, Svarc, Nefkens	(BOSK, UCLA)
MANLEY	92	PR D45 4002	+Saleski	(KENT) IJP
Also	84	PR D30 904	Manley, Arndt, Goradia, Teplitz	(VPI)
ARNDT	91	PR D43 2131	+Li, Roper, Workman, Ford	(VPI, TELE) IJP
CUTKOSKY	80	Toronto Conf. 19	+Forsyth, Babcock, Kelly, Hendrick	(CMU, LBL) IJP
Also	79	PR D20 2839	Cutkosky, Forsyth, Hendrick, Kelly	(CMU, LBL)
HOEHLER	79	PDAT 12-1	+Kaiser, Koch, Pietarinen	(KARLT) IJP
Also	80	Toronto Conf. 3	Koch	(KARLT) IJP