$N(2100)$ P_{11}

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

OMITTED FROM SUMMARY TABLE

N(2100) MASS

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
≈ 2100 OUR ESTIMATE				
1885 ± 30	MANLEY	92	IPWA	$\pi N \rightarrow \pi N$ & $N\pi\pi$
2125 ± 75	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$
2050 ± 20	HOEHLER	79	IPWA	$\pi N \rightarrow \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2203 ± 70	BATINIC	95	DPWA	$\pi N \rightarrow N\pi$, $N\eta$

N(2100) WIDTH

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

N(2100) POLE POSITION

REAL PART

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
2120 ± 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×IMAGINARY PART

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
240 ± 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 $|r|$

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
14 ± 7	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$

PHASE θ

VALUE (°)	*DOCUMENT ID*		*TECN*	*COMMENT*
35 ± 25	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$

$N(2100)$ DECAY MODES

	Mode
Γ_1	$N\pi$
Γ_2	$N\eta$
Γ_3	$N\pi\pi$
Γ_4	$\Delta(1232)\pi$, P-wave

$N(2100)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{total}$ Γ_1/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.15 ± 0.06	MANLEY	92	IPWA	$\pi N \to \pi N$ & $N\pi\pi$
0.12 ± 0.03	CUTKOSKY	80	IPWA	$\pi N \to \pi N$
0.10 ± 0.04	HOEHLER	79	IPWA	$\pi N \to \pi N$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.11 ± 0.07	BATINIC	95	DPWA	$\pi N \to N\pi$, $N\eta$

$\Gamma(N\eta)/\Gamma_{total}$ Γ_2/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.86 ± 0.07	BATINIC	95	DPWA	$\pi N \to N\pi$, $N\eta$

$(\Gamma_i\Gamma_f)^{1/2}/\Gamma_{total}$ in $N\pi \to N(2100) \to \Delta(1232)\pi$, P-wave $(\Gamma_1\Gamma_4)^{1/2}/\Gamma$

VALUE	DOCUMENT ID		TECN	COMMENT
-0.19 ± 0.08	MANLEY	92	IPWA	$\pi N \to \pi N$ & $N\pi\pi$

$N(2100)$ 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