

$\Delta(2150) S_{31}$

$$I(J^P) = \frac{3}{2}(\frac{1}{2}^-) \text{ Status: } *$$

OMITTED FROM SUMMARY TABLE

 $\Delta(2150)$ BREIT-WIGNER MASS

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
≈ 2150 OUR ESTIMATE			
2047.4 \pm 27.0	¹ CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$
2203.2 \pm 8.4	¹ CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$
2150 \pm 100	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

 $\Delta(2150)$ BREIT-WIGNER WIDTH

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
121.6 \pm 62.0	¹ CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$
120.5 \pm 45.0	¹ CHEW	80	BPWA $\pi^+ p \rightarrow \pi^+ p$
200 \pm 100	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

 $\Delta(2150)$ POLE POSITION**REAL PART**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
2140 \pm 80	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

-2 \times IMAGINARY PART

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

 $\Delta(2150)$ ELASTIC POLE RESIDUE**MODULUS $|r|$**

<u>VALUE (MeV)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
7 \pm 2	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

PHASE θ

<u>VALUE ($^\circ$)</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
-60 \pm 90	CUTKOSKY	80	IPWA $\pi N \rightarrow \pi N$

 $\Delta(2150)$ DECAY MODES

<u>Mode</u>
Γ_1 $N\pi$
Γ_2 ΣK

$\Delta(2150)$ BRANCHING RATIOS

$\Gamma(N\pi)/\Gamma_{\text{total}}$					Γ_1/Γ
VALUE	DOCUMENT ID	TECN	COMMENT		
0.41	¹ CHEW	80	BPWA	$\pi^+ p \rightarrow \pi^+ p$	
0.37	¹ CHEW	80	BPWA	$\pi^+ p \rightarrow \pi^+ p$	
0.08 ± 0.02	CUTKOSKY	80	IPWA	$\pi N \rightarrow \pi N$	

$(\Gamma_i \Gamma_f)^{1/2}/\Gamma_{\text{total}}$ in $N\pi \rightarrow \Delta(2150) \rightarrow \Sigma K$					$(\Gamma_1 \Gamma_2)^{1/2}/\Gamma$
VALUE	DOCUMENT ID	TECN	COMMENT		
<0.03	CANDLIN	84	DPWA	$\pi^+ p \rightarrow \Sigma^+ K^+$	

$\Delta(2150)$ FOOTNOTES

¹ CHEW 80 reports two S_{31} resonances in this mass region. Problems with this analysis are discussed in section 2.1.11 of HOEHLER 83.

$\Delta(2150)$ REFERENCES

CANDLIN	84	NP B238 477	+Lowe, Peach, Scotland+	(EDIN, RAL, LOWC)
HOEHLER	83	Landolt-Boernstein 1/9B2		(KARLT)
CHEW	80	Toronto Conf. 123		(LBL) IJP
CUTKOSKY	80	Toronto Conf. 19	+Forsyth, Babcock, Kelly, Hendrick	(CMU, LBL) IJP
Also	79	PR D20 2839	Cutkosky, Forsyth, Hendrick, Kelly	(CMU, LBL)