

$\rho_5(2350)$

$$I^G(J^{PC}) = 1^+(5^{--})$$

OMITTED FROM SUMMARY TABLE

This entry was previously called $U_1(2400)$. See also $\rho(2150)$, $f_2(2150)$, $\rho_3(2250)$, $f_4(2300)$.

NODE=M033

NODE=M033

$\rho_5(2350)$ MASS

NODE=M033205

$\pi^- p \rightarrow \omega \pi^0 n$

NODE=M033M3
NODE=M033M3

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
2330±35	ALDE	95	GAM2 38 $\pi^- p \rightarrow \omega \pi^0 n$

$\bar{p} p \rightarrow \pi \pi$ or $\bar{K} K$

NODE=M033M1
NODE=M033M1

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 2303	HASAN	94	RVUE	$\bar{p} p \rightarrow \pi \pi$
~ 2300	¹ MARTIN	80B	RVUE	
~ 2250	¹ MARTIN	80C	RVUE	
~ 2500	² CARTER	78B	CNTR 0	0.7-2.4 $\bar{p} p \rightarrow K^- K^+$
~ 2480	³ CARTER	77	CNTR 0	0.7-2.4 $\bar{p} p \rightarrow \pi \pi$

S-CHANNEL $\bar{N} N$

NODE=M033M2
NODE=M033M2

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2300±45	⁴ ANISOVICH	02	SPEC	0.6-1.9 $\bar{p} p \rightarrow \omega \pi^0$, $\omega \eta \pi^0$, $\pi^+ \pi^-$
2295±30	ANISOVICH	00J	SPEC	
~ 2380	⁵ CUTTS	78B	CNTR	0.97-3 $\bar{p} p \rightarrow \bar{N} N$
2345±15	^{5,6} COUPLAND	77	CNTR 0	0.7-2.4 $\bar{p} p \rightarrow \bar{p} p$
2359± 2	^{5,7} ALSPECTOR	73	CNTR	$\bar{p} p$ S channel
2350±10	⁸ ABRAMS	70	CNTR	S channel $\bar{N} N$
2360±25	⁹ OH	70B	HDBC -0	$\bar{p}(pn)$, $K^* K 2\pi$

$\pi^- p \rightarrow K^+ K^- n$

NODE=M033M4
NODE=M033M4

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2307±6	ALPER	80	CNTR 0	62 $\pi^- p \rightarrow K^+ K^- n$
¹ $I(J^P) = 1(5^-)$ from simultaneous analysis of $p \bar{p} \rightarrow \pi^- \pi^+$ and $\pi^0 \pi^0$. ² $I = 0(1)$; $J^P = 5^-$ from Barrelet-zero analysis. ³ $I(J^P) = 1(5^-)$ from amplitude analysis. ⁴ From the combined analysis of ANISOVICH 00J, ANISOVICH 01D, ANISOVICH 01E, and ANISOVICH 02. ⁵ Isospins 0 and 1 not separated. ⁶ From a fit to the total elastic cross section. ⁷ Referred to as U or U region by ALSPECTOR 73. ⁸ For $I = 1 \bar{N} N$. ⁹ No evidence for this bump seen in the $\bar{p} p$ data of CHAPMAN 71B. Narrow state not confirmed by OH 73 with more data.				

NODE=M033M1;LINKAGE=P
NODE=M033M1;LINKAGE=K
NODE=M033M1;LINKAGE=J
NODE=M033M2;LINKAGE=AY

NODE=M033M2;LINKAGE=I
NODE=M033M2;LINKAGE=E
NODE=M033M2;LINKAGE=M
NODE=M033M2;LINKAGE=A
NODE=M033M2;LINKAGE=N

$\rho_5(2350)$ WIDTH

NODE=M033210

$\pi^- p \rightarrow \omega \pi^0 n$

NODE=M033W3
NODE=M033W3

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
400±100	ALDE	95	GAM2 38 $\pi^- p \rightarrow \omega \pi^0 n$

$\bar{p} p \rightarrow \pi \pi$ or $\bar{K} K$

NODE=M033W1
NODE=M033W1

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 169	HASAN	94	RVUE	$\bar{p} p \rightarrow \pi \pi$
~ 250	¹⁰ MARTIN	80B	RVUE	
~ 300	¹⁰ MARTIN	80C	RVUE	
~ 150	¹¹ CARTER	78B	CNTR 0	0.7-2.4 $\bar{p} p \rightarrow K^- K^+$
~ 210	¹² CARTER	77	CNTR 0	0.7-2.4 $\bar{p} p \rightarrow \pi \pi$

S-CHANNEL $\bar{N}N$

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
260 ± 75	13 ANISOVICH	02	SPEC	$0.6\text{--}1.9 \bar{p}\bar{p} \rightarrow \omega\pi^0, \omega\eta\pi^0, \pi^+\pi^-$
235^{+65}_{-40}	ANISOVICH	00J	SPEC	
135^{+150}_{-65}	14,15 COUPLAND	77	CNTR 0	$0.7\text{--}2.4 \bar{p}p \rightarrow \bar{p}p$
165^{+18}_{-8}	15 ALSPECTOR	73	CNTR	$\bar{p}p$ S channel
< 60	16 OH	70B	HDBC -0	$\bar{p}(pn), K^*K2\pi$
~ 140	ABRAMS	67C	CNTR	S channel $\bar{p}N$

NODE=M033W2
 NODE=M033W2

 $\pi^-p \rightarrow K^+K^-n$

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
245 ± 20	ALPER	80	CNTR 0	$62 \pi^-p \rightarrow K^+K^-n$
$10 I(J^P) = 1(5^-)$ from simultaneous analysis of $p\bar{p} \rightarrow \pi^-\pi^+$ and $\pi^0\pi^0$. $11 I = 0(1); J^P = 5^-$ from Barrelet-zero analysis. $12 I(J^P) = 1(5^-)$ from amplitude analysis. 13 From the combined analysis of ANISOVICH 00J, ANISOVICH 01D, ANISOVICH 01E, and ANISOVICH 02. 14 From a fit to the total elastic cross section. 15 Isospins 0 and 1 not separated. 16 No evidence for this bump seen in the $\bar{p}p$ data of CHAPMAN 71B. Narrow state not confirmed by OH 73 with more data.				

NODE=M033W4
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OCCUR=2

NODE=M033W1;LINKAGE=P
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 NODE=M033W2;LINKAGE=I
 NODE=M033W2;LINKAGE=N

 $\rho_5(2350)$ REFERENCES

ANISOVICH 02	PL B542 8	A.V. Anisovich <i>et al.</i>	
ANISOVICH 01D	PL B508 6	A.V. Anisovich <i>et al.</i>	
ANISOVICH 01E	PL B513 281	A.V. Anisovich <i>et al.</i>	
ANISOVICH 00J	PL B491 47	A.V. Anisovich <i>et al.</i>	(RAL, LOQM, PNPI+)
ALDE 95	ZPHY C66 379	D.M. Alde <i>et al.</i>	(GAMS Collab.) JP
HASAN 94	PL B334 215	A. Hasan, D.V. Bugg	(LOQM)
ALPER 80	PL 94B 422	B. Alper <i>et al.</i>	(AMST, CERN, CRAC, MPIM+)
MARTIN 80B	NP B176 355	B.R. Martin, D. Morgan	(LOUC, RHEL) JP
MARTIN 80C	NP B169 216	A.D. Martin, M.R. Pennington	(DURH) JP
CARTER 78B	NP B141 467	A.A. Carter	(LOQM)
CUTTS 78B	PR D17 16	D. Cutts <i>et al.</i>	(STON, WISC)
CARTER 77	PL 67B 117	A.A. Carter <i>et al.</i>	(LOQM, RHEL) JP
COUPLAND 77	PL 71B 460	M. Coupland <i>et al.</i>	(LOQM, RHEL)
ALSPECTOR 73	PRL 30 511	J. Alspector <i>et al.</i>	(RUTG, UPNJ)
OH 73	NP B51 57	B.Y. Oh <i>et al.</i>	(MSU)
CHAPMAN 71B	PR D4 1275	J.W. Chapman <i>et al.</i>	(MICH)
ABRAMS 70	PR D1 1917	R.J. Abrams <i>et al.</i>	(BNL)
OH 70B	PRL 24 1257	B.Y. Oh <i>et al.</i>	(MSU)
ABRAMS 67C	PRL 18 1209	R.J. Abrams <i>et al.</i>	(BNL)

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