$\rho_5(2350)$

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

OMITTED FROM SUMMARY TABLE

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

$\rho_5(2350)$ MASS

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

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

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

S-CHANNEL $\overline{N}N$

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 $p\overline{p} \to \omega\pi^0$, $\omega\eta\pi^0$, $\pi^+\pi^-$
2295±30	ANISOVICH	00J	SPEC		
~ 2380	[5] CUTTS	78B	CNTR		0.97–3 $\overline{p}p \to \overline{N}N$
2345±15	[5,6] COUPLAND	77	CNTR	0	0.7–2.4 $\overline{p}p \to \overline{p}p$
2359± 2	[5,7] ALSPECTOR	73	CNTR		$\overline{p}p$ S channel
2350±10	[8] ABRAMS	70	CNTR		S channel $\overline{N}N$
2360±25	[9] OH	70B	HDBC	−0	$\overline{p}(pn)$, $K^* K 2\pi$

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

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

[1] $I(J^P) = 1(5^-)$ from simultaneous analysis of $p\overline{p} \to \pi^-\pi^+$ 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 $I = 1$ $\overline{N}N$.
[9] No evidence for this bump seen in the $\overline{p}p$ data of CHAPMAN 71B. Narrow state not confirmed by OH 73 with more data.

$\rho_5(2350)$ WIDTH

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

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

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

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

S-CHANNEL $\overline{N}N$

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		0.6–1.9 $p\overline{p} \rightarrow \omega\pi^0$, $\omega\eta\pi^0$, $\pi^+\pi^-$
235^{+65}_{-40}	ANISOVICH	00J	SPEC		
135^{+150}_{-65}	[14,15] COUPLAND	77	CNTR	0	0.7–2.4 $\overline{p}p \rightarrow \overline{p}p$
165^{+18}_{-8}	[15] ALSPECTOR	73	CNTR		$\overline{p}p$ S channel
< 60	[16] OH	70B	HDBC	−0	$\overline{p}(pn)$, $K^* K 2\pi$
∼ 140	ABRAMS	67C	CNTR		S channel $\overline{p}N$

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

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 $p\overline{p} \rightarrow \pi^- \pi^+$ 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 $\overline{p}p$ data of CHAPMAN 71B. Narrow state not confirmed by OH 73 with more data.

$\rho_5(2350)$ REFERENCES

ANISOVICH	02	PL B542 8	A.V. Anisovich *et al.*	
ANISOVICH	01D	PL B508 6	A.V. Anisovich *et al.*	
ANISOVICH	01E	PL B513 281	A.V. Anisovich *et al.*	
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ALDE	95	ZPHY C66 379	D.M. Alde *et al.*	(GAMS Collab.) JP
HASAN	94	PL B334 215	A. Hasan, D.V. Bugg	(LOQM)
ALPER	80	PL 94B 422	B. Alper *et al.*	(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)
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