# $\rho_5(2350)$

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

OMITTED FROM SUMMARY TABLE

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

## $\rho_5(2350)$ 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


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