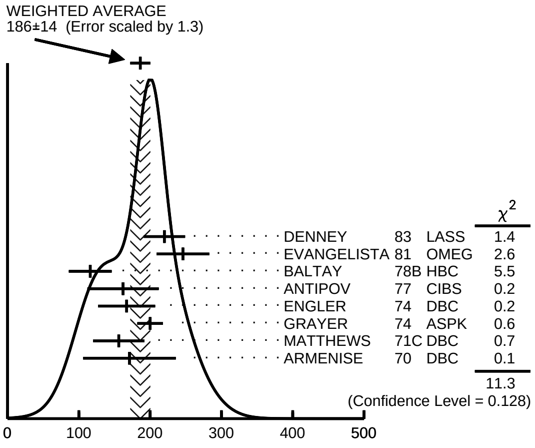
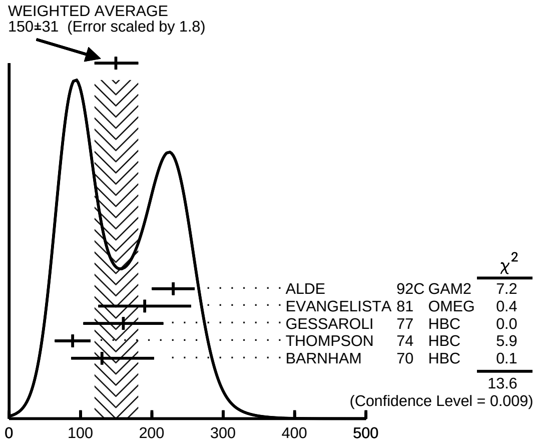


$\rho_3(1690)$ width, 2π mode (MeV)



$\rho_3(1690)$ width, $\omega\pi$ mode (MeV)

$K\overline{K}$ AND $K\overline{K}\pi$ MODES

The data in this block is included in the average printed for a previous datablock.

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
218 ± 4 OUR AVERAGE						
219.0± 4.0		ALPER	80	CNTR	0	62 $\pi^- p \to K^+ K^- n$
199 ±40	6000	[18] MARTIN	78D	SPEC		10 $\pi p \to K^0_S K^- p$
205 ±20		BLUM	75	ASPK	0	18.4 $\pi^- p \to n K^+ K^-$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
186.0±11.0		[19] COSTA...	80	OMEG		10 $\pi^- p \to K^+ K^- n$
112.0±60.0		ADERHOLZ	69	HBC	+	8 $\pi^+ p \to K\overline{K}\pi$

[18] From a fit to $J^P = 3^-$ partial wave.
[19] They cannot distinguish between $\rho_3(1690)$ and $\omega_3(1670)$.

$(4\pi)^\pm$ MODE

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
119 ±13 OUR AVERAGE						
105.0±30.0	177	BALTAY	78B	HBC	+	15 $\pi^+ p \to p 4\pi$
106 ±25		THOMPSON	74	HBC	+	13 $\pi^+ p$
169 $^{+70}_{-48}$		CASON	73	HBC	−	8,18.5 $\pi^- p$
130 ±30		HOLMES	72	HBC	+	10–12 $K^+ p$
135.0±30.0	144	BARTSCH	70B	HBC	+	8 $\pi^+ p \to N 4\pi$
100 ±35		BALTAY	68	HBC	+	7, 8.5 $\pi^+ p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
123 ±13		[20] EVANGELISTA	81	OMEG	−	12 $\pi^- p \to p 4\pi$
230 ±28		[21] EVANGELISTA	81	OMEG	−	12 $\pi^- p \to p 4\pi$
184 ±33		[22] EVANGELISTA	81	OMEG	−	12 $\pi^- p \to p 4\pi$
150	66	[23] KLIGER	74	HBC	−	4.5 $\pi^- p \to p 4\pi$
125 $^{+83}_{-35}$		[23] CASON	73	HBC	−	8,18.5 $\pi^- p$
180.0±30.0	90	[23] BARTSCH	70B	HBC	+	8 $\pi^+ p \to N a_2 \pi$
160.0±30.0	102	BARTSCH	70B	HBC	+	8 $\pi^+ p \to N 2\rho$

[20] From $\rho^- \rho^0$ mode, not independent of the other two EVANGELISTA 81 entries.
[21] From $a_2(1320)^- \pi^0$ mode, not independent of the other two EVANGELISTA 81 entries.
[22] From $a_2(1320)^0 \pi^-$ mode, not independent of the other two EVANGELISTA 81 entries.
[23] From $\rho^\pm \rho^0$ mode.

$\omega\pi$ MODE

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
150 ±31 OUR AVERAGE	Error includes scale factor of 1.8. See the ideogram below.				
230 ±30	ALDE	92C	GAM2		38,100 $\pi^- p \to \omega\pi^0 n$
190 ±65	EVANGELISTA	81	OMEG	−	12 $\pi^- p \to \omega\pi p$
160.0±56.0	GESSAROLI	77	HBC		11 $\pi^- p \to \omega\pi p$
89 ±25	THOMPSON	74	HBC	+	13 $\pi^+ p$
130 $^{+73}_{-43}$	BARNHAM	70	HBC	+	10 $K^+ p \to \omega\pi X$

$\eta\pi^+\pi^-$ MODE

(For difficulties with MMS experiments, see the $a_2(1320)$ mini-review in the 1973 edition.)

VALUE (MeV)	DOCUMENT ID		TECN	CHG	COMMENT
106 ±27	FUKUI	88	SPEC	0	8.95 $\pi^- p \to \eta\pi^+\pi^- n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
195.0	[24] ANDERSON	69	MMS	−	16 $\pi^- p$ backward
< 21	[24,25] FOCACCI	66	MMS	−	7–12 $\pi^- p \to p$MM
< 30	[24,25] FOCACCI	66	MMS	−	7–12 $\pi^- p \to p$MM
< 38	[24,25] FOCACCI	66	MMS	−	7–12 $\pi^- p \to p$MM

[24] Seen in 2.5–3 GeV/c $\overline{p}p$. $2\pi^+ 2\pi^-$, with 0, 1, 2 $\pi^+\pi^-$ pairs in ρ^0 band not seen by OREN 74 (2.3 GeV/c $\overline{p}p$) with more statistics. (Jan. 1979)
[25] Not seen by BOWEN 72.

$\rho_3(1690)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Scale factor
Γ_1	4π	(71.1 ± 1.9) %	
Γ_2	$\pi^\pm\pi^+\pi^-\pi^0$	(67 ±22) %	
Γ_3	$\pi\pi$	(23.6 ± 1.3) %	
Γ_4	$\omega\pi$	(16 ± 6) %	
Γ_5	$K\overline{K}\pi$	(3.8 ± 1.2) %	
Γ_6	$K\overline{K}$	(1.58± 0.26) %	1.2
Γ_7	$\eta\pi^+\pi^-$	seen	
Γ_8	$\pi\pi\rho$ Excluding 2ρ and $a_2(1320)\pi$.		
Γ_9	$a_2(1320)\pi$		
Γ_{10}	$\rho\rho$		
Γ_{11}	$\phi\pi$		
Γ_{12}	$\eta\pi$		
Γ_{13}	$\pi^\pm 2\pi^+ 2\pi^- \pi^0$		

CONSTRAINED FIT INFORMATION

An overall fit to 5 branching ratios uses 10 measurements and one constraint to determine 4 parameters. The overall fit has a $\chi^2 =$ 14.7 for 7 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle\delta x_i \delta x_j\rangle/(\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i/\Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_3	−77		
x_5	−74	17	
x_6	−15	2	0
	x_1	x_3	x_5