Meson Full Listings

$\rho_3(1690)$

$\rho_3(1690)$ BRANCHING RATIOS

$\Gamma(\pi\pi)/\Gamma_{total}$ — Γ_3/Γ

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.236±0.013 OUR FIT					
0.243±0.013 OUR AVERAGE					
$0.259^{+0.018}_{-0.019}$	BECKER	79	ASPK	0	17 $\pi^- p$ polarized
0.23 ±0.02	CORDEN	79	OMEG		12–15 $\pi^- p \to n2\pi$
0.22 ±0.04	[26] MATTHEWS	71C	HDBC	0	7 $\pi^+ n \to \pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.245±0.006	[27] ESTABROOKS	75	RVUE		17 $\pi^- p \to \pi^+\pi^- n$

[26] One-pion-exchange model used in this estimation.
[27] From phase-shift analysis of HYAMS 75 data.

$\Gamma(\pi\pi)/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — Γ_3/Γ_2

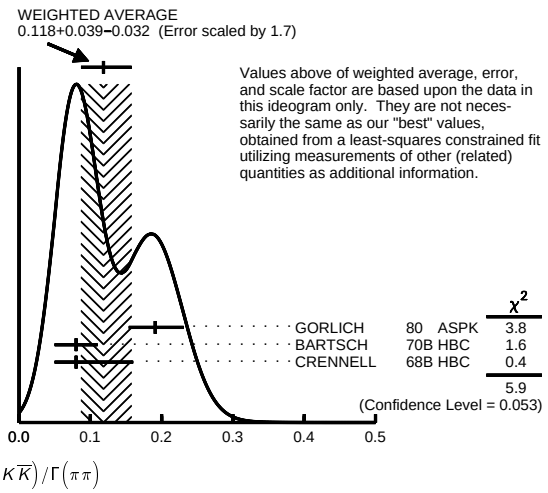
VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.35±0.11	CASON	73	HBC	–	8,18.5 $\pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.2	HOLMES	72	HBC	+	10–12 $K^+ p$
<0.12	BALLAM	71B	HBC	–	16 $\pi^- p$

$\Gamma(\pi\pi)/\Gamma(4\pi)$ — Γ_3/Γ_1

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.332±0.026 OUR FIT Error includes scale factor of 1.1.					
0.30 ±0.10	BALTAY	78B	HBC	0	15 $\pi^+ p \to p4\pi$

$\Gamma(K\overline{K})/\Gamma(\pi\pi)$ — Γ_6/Γ_3

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.067±0.011 OUR FIT Error includes scale factor of 1.2.					
$0.118^{+0.039}_{-0.032}$ OUR AVERAGE Error includes scale factor of 1.7. See the ideogram below.					
$0.191^{+0.040}_{-0.037}$	GORLICH	80	ASPK	0	17,18 $\pi^- p$ polarized
0.08 ±0.03	BARTSCH	70B	HBC	+	8 $\pi^+ p$
$0.08^{+0.08}_{-0.03}$	CRENNELL	68B	HBC		6.0 $\pi^- p$



$\Gamma(K\overline{K}\pi)/\Gamma(\pi\pi)$ — Γ_5/Γ_3

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.16±0.05 OUR FIT					
0.16±0.05	[28] BARTSCH	70B	HBC	+	8 $\pi^+ p$

[28] Increased by us to correspond to $B(\rho_3(1690) \to \pi\pi)=0.24$.

$[\Gamma(\pi\pi\rho)+\Gamma(a_2(1320)\pi)+\Gamma(\rho\rho)]/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — $(\Gamma_8+\Gamma_9+\Gamma_{10})/\Gamma_2$

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.94±0.09 OUR AVERAGE					
0.96±0.21	BALTAY	78B	HBC	+	15 $\pi^+ p \to p4\pi$
0.88±0.15	BALLAM	71B	HBC	–	16 $\pi^- p$
1 ±0.15	BARTSCH	70B	HBC	+	8 $\pi^+ p$
consistent with 1	CASO	68	HBC	–	11 $\pi^- p$

$\Gamma(\rho\rho)/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — Γ_{10}/Γ_2

VALUE	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •						
0.12±0.11		BALTAY	78B	HBC	+	15 $\pi^+ p \to p4\pi$
0.56	66	KLIGER	74	HBC	–	4.5 $\pi^- p \to p4\pi$
0.13±0.09		[29] THOMPSON	74	HBC	+	13 $\pi^+ p$
0.7 ±0.15		BARTSCH	70B	HBC	+	8 $\pi^+ p$

[29] $\rho\rho$ and $a_2(1320)\pi$ modes are indistinguishable.

$\Gamma(\rho\rho)/[\Gamma(\pi\pi\rho)+\Gamma(a_2(1320)\pi)+\Gamma(\rho\rho)]$ — $\Gamma_{10}/(\Gamma_8+\Gamma_9+\Gamma_{10})$

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.48±0.16	CASO	68	HBC	–	11 $\pi^- p$

$\Gamma(a_2(1320)\pi)/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — Γ_9/Γ_2

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.66±0.08	BALTAY	78B	HBC	+	15 $\pi^+ p \to p4\pi$
0.36±0.14	[30] THOMPSON	74	HBC	+	13 $\pi^+ p$
not seen	CASON	73	HBC	–	8,18.5 $\pi^- p$
0.6 ±0.15	BARTSCH	70B	HBC	+	8 $\pi^+ p$
0.6	BALTAY	68	HBC	+	7,8.5 $\pi^+ p$

[30] $\rho\rho$ and $a_2(1320)\pi$ modes are indistinguishable.

$\Gamma(\omega\pi)/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — Γ_4/Γ_2

VALUE	CL%	DOCUMENT ID		TECN	CHG	COMMENT
0.23±0.05 OUR AVERAGE Error includes scale factor of 1.2.						
0.33±0.07		THOMPSON	74	HBC	+	13 $\pi^+ p$
0.12±0.07		BALLAM	71B	HBC	–	16 $\pi^- p$
0.25±0.10		BALTAY	68	HBC	+	7,8.5 $\pi^+ p$
0.25±0.10		JOHNSTON	68	HBC	–	7.0 $\pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.11	95	BALTAY	78B	HBC	+	15 $\pi^+ p \to p4\pi$
<0.09		KLIGER	74	HBC	–	4.5 $\pi^- p \to p4\pi$

$\Gamma(\phi\pi)/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — Γ_{11}/Γ_2

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.11	BALTAY	68	HBC	+	7,8.5 $\pi^+ p$

$\Gamma(\pi^\pm 2\pi^+ 2\pi^-\pi^0)/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — Γ_{13}/Γ_2

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.15	BALTAY	68	HBC	+	7,8.5 $\pi^+ p$

$\Gamma(\eta\pi)/\Gamma(\pi^\pm\pi^+\pi^-\pi^0)$ — Γ_{12}/Γ_2

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.02	THOMPSON	74	HBC	+	13 $\pi^+ p$

$\Gamma(K\overline{K})/\Gamma_{total}$ — Γ_6/Γ

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
0.0158±0.0026 OUR FIT Error includes scale factor of 1.2.					
0.0130±0.0024 OUR AVERAGE					
0.013 ±0.003	COSTA...	80	OMEG	0	10 $\pi^- p \to K^+ K^- n$
0.013 ±0.004	[31] MARTIN	78B	SPEC	–	10 $\pi p \to K^0_S K^- p$

[31] From $(\Gamma_3\Gamma_6)^{1/2} = 0.056 \pm 0.034$ assuming $B(\rho_3(1690) \to \pi\pi) = 0.24$.

$\Gamma(\omega\pi)/[\Gamma(\omega\pi)+\Gamma(\rho\rho)]$ — $\Gamma_4/(\Gamma_4+\Gamma_{10})$

VALUE	DOCUMENT ID		TECN	CHG	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.22±0.08	CASON	73	HBC	–	8,18.5 $\pi^- p$

$\Gamma(\eta\pi^+\pi^-)/\Gamma_{total}$ — Γ_7/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
seen	FUKUI	88	SPEC	8.95 $\pi^- p \to \eta\pi^+\pi^- n$

$\rho_3(1690)$ REFERENCES

ALDE	92C	ZPHY C54 553	+Bellazzini+	(SERP, BELG, LANL, LAPP, PISA, KEK)
FUKUI	88	PL B202 441	+Horikawa+	(SUGI, NAGO, KEK, KYOT, MIYA)
DENNEY	83	PR D28 2726	+Cranley, Firestone, Chapman+	(IOWA, MICH)
EVANGELISTA	81	NP B178 197	+	(BARI, BONN, CERN, DARE, LIVP+)
ALPER	80	PL 94B 422	+Becker+	(AMST, CERN, CRAC, MPIM, OXF+)
COSTA...	80	NP B175 402	Costa De Beauregard+	(BARI, BONN, CERN+)
GORLICH	80	NP B174 16	+Niczyporuk+	(CRAC, MPIM, CERN, ZEEM)
BECKER	79	NP B151 46	+Blanar, Blum+	(MPIM, CERN, ZEEM, CRAC)
CORDEN	79	NP B157 250	+Dowell, Garvey+	(BIRM, RHEL, TELA, LOWC) JP
BALTAY	78B	PR D17 62	+Cautis, Cohen, Csorna+	(COLU, BING)
MARTIN	78B	NP B140 158	+Ozmutlu, Baldi, Bohringer, Dorsaz+	(DURH, GEVA)
MARTIN	78D	PL 74B 417	+Ozmutlu, Baldi, Bohringer, Dorsaz+	(DURH, GEVA)
ANTIPOV	77	NP B119 45	+Busnello, Damgaard, Kienzle+	(SERP, GEVA)
GESSAROLI	77	NP B126 382	+	(BGNA, FIRZ, GENO, MILA, OXF, PAVI)
BLUM	75	PL 57B 403	+Chabaud, Dietl, Garelick, Grayer+	(CERN, MPIM) JP
ESTABROOKS	75	NP B95 322	+Martin	(DURH)
HYAMS	75	NP B100 205	+Jones, Weilhammer, Blum, Dietl+	(CERN, MPIM)
ENGLER	74	PR D10 2070	+Kraemer, Toaff, Weisser, Diaz+	(CMU, CASE)
GRAYER	74	NP B75 189	+Hyams, Blum, Dietl+	(CERN, MPIM)
KLIGER	74	SJNP 19 428	+Beketov, Grechko, Guzhavin, Dubovikov+	(ITEP)

Translated from YAF 19 839.