

S-CHANNEL $\bar{p}p$, $\bar{N}N$ or $\bar{K}K$

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
2139^{+8}_{-9}	⁸ EVANGELISTA 97	SPEC		0.6-2.4 $\bar{p}p \rightarrow K_S^0 K_S^0$
~ 2190	⁸ CUTTS 78B	CNTR		0.97-3 $\bar{p}p \rightarrow \bar{N}N$
2155 ± 15	^{8,9} COUPLAND 77	CNTR	0	0.7-2.4 $\bar{p}p \rightarrow \bar{p}p$
2193 ± 2	^{8,10} ALSPECTOR 73	CNTR		$\bar{p}p$ S channel

- ⁸ Isospins 0 and 1 not separated.
- ⁹ From a fit to the total elastic cross section.
- ¹⁰ Referred to as T or \bar{T} region by ALSPECTOR 73.

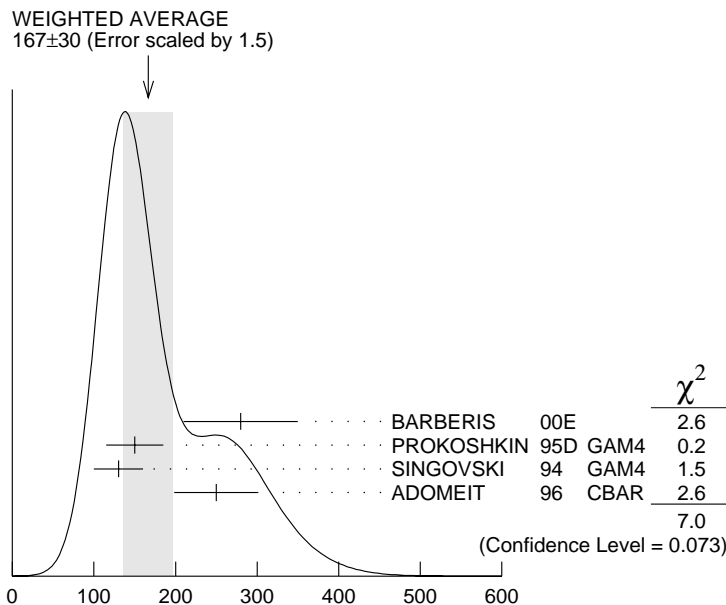
K \bar{K} MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
2130 ± 35	BARBERIS 99	OMEG	450 $p\bar{p} \rightarrow p_S p_f K^+ K^-$

$f_2(2150)$ WIDTH

$f_2(2150)$ WIDTH, COMBINED MODES (MeV)

167 ± 30 OUR AVERAGE Includes data from the 2 datablocks that follow this one. Error includes scale factor of 1.5. See the ideogram below.



$f_2(2150)$ WIDTH, COMBINED MODES (MeV)

$\eta\eta$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
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The data in this block is included in the average printed for a previous datablock.

152±30 OUR AVERAGE Error includes scale factor of 1.4. See the ideogram below.

280±70	BARBERIS	00E	450 $pp \rightarrow p_f \eta \eta p_s$
150±35	PROKOSHKIN	95D GAM4	300 $\pi^- N \rightarrow \pi^- N 2\eta$, 450 $pp \rightarrow pp 2\eta$
130±30	SINGOVSKI	94 GAM4	450 $pp \rightarrow pp 2\eta$

• • • We do not use the following data for averages, fits, limits, etc. • • •

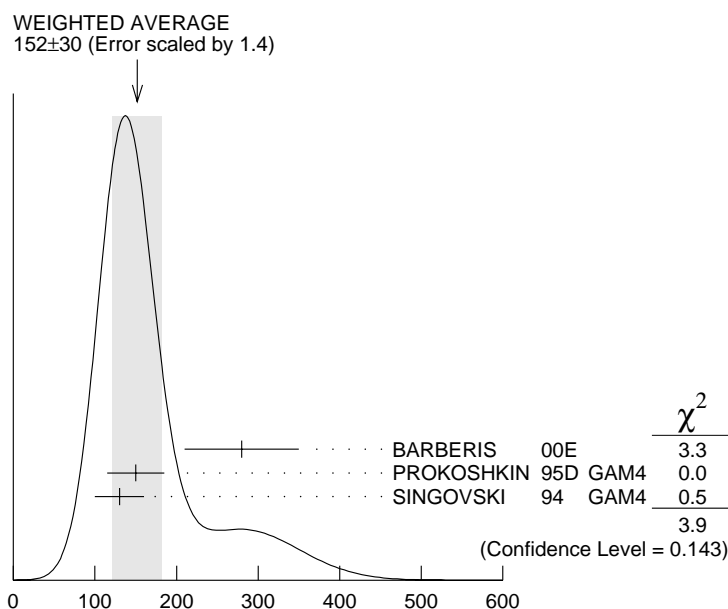
310±50	¹¹ ABELE	99B CBAR	
seen	¹² ANISOVICH	99B SPEC	1.35–1.94 $\bar{p}p \rightarrow \eta\eta\pi^0$
200±25	¹³ ANISOVICH	99K RVUE	0.6–1.94 $\bar{p}p \rightarrow \eta\eta, \eta\eta'$
203±10	¹⁴ ARMSTRONG	93C E760	$\bar{p}p \rightarrow \pi^0 \eta\eta \rightarrow 6\gamma$

¹¹ Spin not determined.

¹² $J^{PC} = 0^{++}$

¹³ PWA gives $J^{PC} = 0^{++}$.

¹⁴ No J^{PC} determination.



$f_2(2150)$ WIDTH, $\eta\eta$ MODE (MeV)

$\eta\pi\pi$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
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The data in this block is included in the average printed for a previous datablock.

250±25±45	ADOMEIT	96 CBAR	0	1.94 $\bar{p}p \rightarrow \eta 3\pi^0$
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$\bar{p}p \rightarrow \pi\pi$

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
250 OUR ESTIMATE			
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●			
~ 226	HASAN	94 RVUE	$\bar{p}p \rightarrow \pi\pi$
~ 70	¹⁵ OAKDEN	94 RVUE	0.36–1.55 $\bar{p}p \rightarrow \pi\pi$
~ 250	¹⁶ MARTIN	80B RVUE	
~ 250	¹⁶ MARTIN	80C RVUE	
~ 250	¹⁷ DULUDE	78B OSPK	1–2 $\bar{p}p \rightarrow \pi^0\pi^0$
¹⁵ See however KLOET 96 who fit $\pi^+\pi^-$ only and find waves only up to $J = 3$ to be important but not significantly resonant.			
¹⁶ $I(J^P) = 0(2^+)$ from simultaneous analysis of $p\bar{p} \rightarrow \pi^-\pi^+$ and $\pi^0\pi^0$.			
¹⁷ $I^G(J^P) = 0^+(2^+)$ from partial-wave amplitude analysis.			

S-CHANNEL $\bar{p}p, \bar{N}N$ or $\bar{K}K$

VALUE (MeV)	DOCUMENT ID	TECN	CHG	COMMENT
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
56^{+31}_{-16}	¹⁸ EVANGELISTA 97	SPEC		0.6–2.4 $\bar{p}p \rightarrow K_S^0 K_S^0$
135 ± 75	^{19,20} COUPLAND	77 CNTR	0	0.7–2.4 $\bar{p}p \rightarrow \bar{p}p$
98 ± 8	²⁰ ALSPECTOR	73 CNTR		$\bar{p}p$ S channel
¹⁸ Isospin 0 and 2 not separated.				
¹⁹ From a fit to the total elastic cross section.				
²⁰ Isospins 0 and 1 not separated.				

$K\bar{K}$ MODE

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
270 ± 50	BARBERIS	99 OMEG	450 $p\bar{p} \rightarrow p_S p_f K^+ K^-$

$f_2(2150)$ DECAY MODES

Mode
Γ_1 $\pi\pi$
Γ_2 $\eta\eta$
Γ_3 $K\bar{K}$
Γ_4 $f_2(1270)\eta$
Γ_5 $a_2(1320)\pi$

$f_2(2150)$ BRANCHING RATIOS

$\Gamma(K\bar{K})/\Gamma(\eta\eta)$	Γ_3/Γ_2			
VALUE	CL%	DOCUMENT ID	TECN	COMMENT
1.28 ± 0.23		BARBERIS	00E	450 $p\bar{p} \rightarrow p_f \eta \eta p_S$
● ● ● We do not use the following data for averages, fits, limits, etc. ● ● ●				
<0.1	95	²¹ PROKOSHKIN 95D	GAM4	300 $\pi^- N \rightarrow \pi^- N 2\eta$, 450 $p\bar{p} \rightarrow p p 2\eta$
²¹ Using data from ARMSTRONG 89D.				

$\Gamma(\pi\pi)/\Gamma(\eta\eta)$

Γ_1/Γ_2

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
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• • • We do not use the following data for averages, fits, limits, etc. • • •

<0.33	95	²² PROKOSHKIN 95D GAM4	300	$\pi^- N \rightarrow \pi^- N 2\eta$, 450 $p p \rightarrow p p 2\eta$
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²² Derived from a $\pi^0\pi^0/\eta\eta$ limit.

$\Gamma(f_2(1270)\eta)/\Gamma(a_2(1320)\pi)$

Γ_4/Γ_5

VALUE	DOCUMENT ID	TECN	COMMENT
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0.79±0.11	²³ ADOMEIT	96	CBAR 1.94 $\bar{p} p \rightarrow \eta 3\pi^0$
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²³ Using $B(a_2(1320) \rightarrow \eta\pi) = 0.145$

$f_2(2150)$ REFERENCES

BARBERIS	00E	PL B479 59	D. Barberis <i>et al.</i>	(WA 102 Collab.)
ABELE	99B	EPJ C8 67	A. Abele <i>et al.</i>	(Crystal Barrel Collab.)
ANISOVICH	99B	PL B449 154	A.V. Anisovich <i>et al.</i>	
ANISOVICH	99K	PL B468 309	A.V. Anisovich <i>et al.</i>	
BARBERIS	99	PL B453 305	D. Barberis <i>et al.</i>	(Omega Expt.)
EVANGELISTA	97	PR D56 3803	C. Evangelista <i>et al.</i>	(LEAR Collab.)
MARTIN	97	PR C56 1114	B.R. Martin, G.C. Oades	(LOUC, AARH)
ADOMEIT	96	ZPHY C71 227	J. Adomeit <i>et al.</i>	(Crystal Barrel Collab.)
KLOET	96	PR D53 6120	W.M. Kloet, F. Myhrer	(RUTG, NORD)
PROKOSHKIN	95D	SPD 40 495	Y.D. Prokoshkin	(SERP) IGJPC
		Translated from DANS 344 469.		
HASAN	94	PL B334 215	A. Hasan, D.V. Bugg	(LOQM)
OAKDEN	94	NP A574 731	M.N. Oakden, M.R. Pennington	(DURH)
SINGOVSKI	94	NC 107A 1911	A.V. Singovsky	(SERP)
ARMSTRONG	93C	PL B307 394	T.A. Armstrong <i>et al.</i>	(FNAL, FERR, GENO+)
ARMSTRONG	89D	PL B227 186	T.A. Armstrong, M. Benayoun	(ATHU, BARI, BIRM+)
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
CUTTS	78B	PR D17 16	D. Cutts <i>et al.</i>	(STON, WISC)
DULUDE	78B	PL 79B 335	R.S. Dulude <i>et al.</i>	(BROW, MIT, BARI) 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)

OTHER RELATED PAPERS

EISENHAND...	75	NP B96 109	E. Eisenhandler <i>et al.</i>	(LOQM, LIVP, DARE+)
FIELDS	71	PRL 27 1749	T. Fields <i>et al.</i>	(ANL, OXF)
YOH	71	PRL 26 922	J.K. Yoh <i>et al.</i>	(CIT, BNL, ROCH)