$f_2(2150)$

$I^G(J^{PC}) = 0^+(2^{++})$

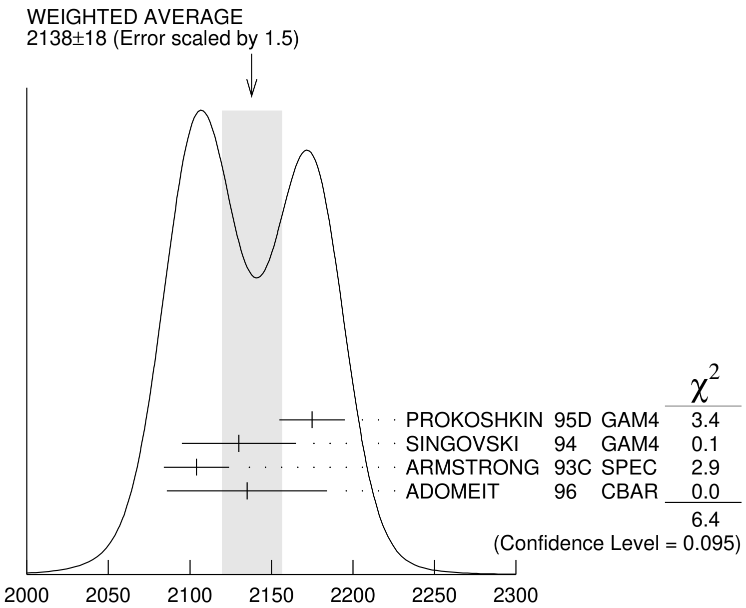
OMITTED FROM SUMMARY TABLE

This entry was previously called T_0.

$f_2(2150)$ MASS

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

VALUE (MeV)	*DOCUMENT ID*
2138±18 OUR AVERAGE	Includes data from the 2 datablocks that follow this one. Error includes scale factor of 1.5. See the ideogram below.

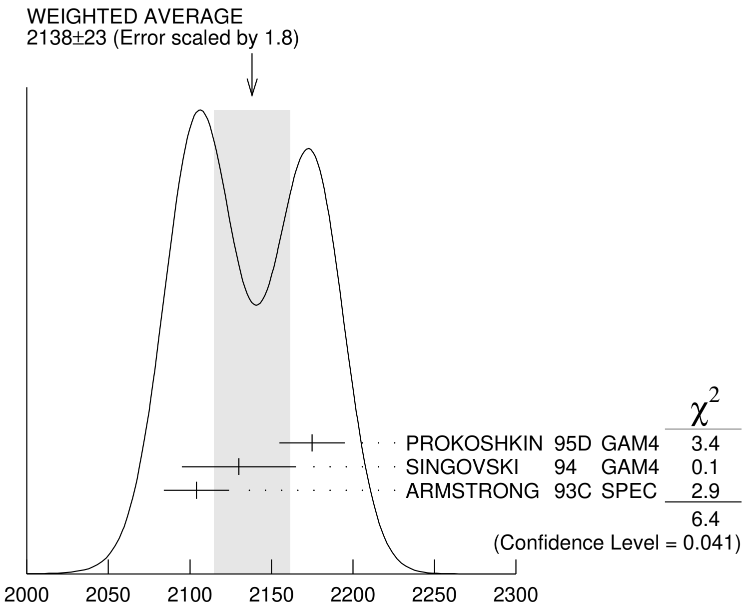


$f_2(2150)$ MASS, COMBINED MODES (MeV)

$\eta\eta$ MODE

VALUE (MeV)	*DOCUMENT ID*	*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.			
2138±23 OUR AVERAGE	Error includes scale factor of 1.8. See the ideogram below.		
2175±20	PROKOSHKIN 95D	GAM4	300 $\pi^- N \rightarrow \pi^- N 2\eta$, 450 $pp \rightarrow pp 2\eta$
2130±35	SINGOVSKI 94	GAM4	450 $pp \rightarrow pp 2\eta$
2104±20	[1] ARMSTRONG 93C	SPEC	$\overline{p}p \rightarrow \pi^0 \eta\eta \rightarrow 6\gamma$

[1] No J^{PC} determination.



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

$\eta\pi\pi$ MODE

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.					
2135±20±45	ADOMEIT	96	CBAR	0	1.94 $\overline{p}p \rightarrow \eta 3\pi^0$

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

VALUE (MeV)	*DOCUMENT ID*		*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
~ 2226	HASAN	94	RVUE	$\overline{p}p \rightarrow \pi\pi$
~ 2170	[2] MARTIN	80B	RVUE	
~ 2150	[2] MARTIN	80C	RVUE	
~ 2150	[3] DULUDE	78B	OSPK	1–2 $\overline{p}p \rightarrow \pi^0\pi^0$

[2] $I(J^P) = 0(2^+)$ from simultaneous analysis of $p\overline{p} \rightarrow \pi^-\pi^+$ and $\pi^0\pi^0$.
[3] $I^G(J^P) = 0^+(2^+)$ from partial-wave amplitude analysis.

S-CHANNEL $\overline{p}p$ or $\overline{N}N$

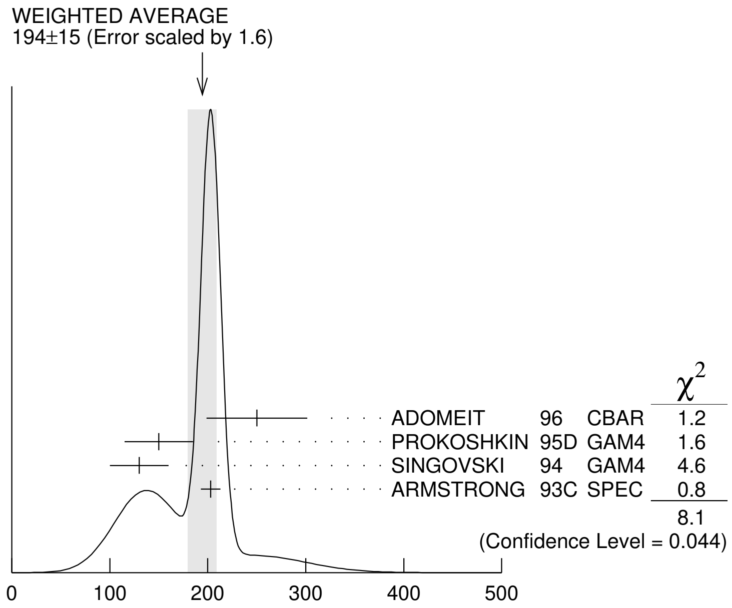
VALUE (MeV)	*DOCUMENT ID*		*TECN*	*CHG*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •					
~ 2190	[4] CUTTS	78B	CNTR		0.97–3 $\overline{p}p \rightarrow \overline{N}N$
2155±15	[4,5] COUPLAND	77	CNTR	0	0.7–2.4 $\overline{p}p \rightarrow \overline{p}p$
2193± 2	[4,6] ALSPECTOR	73	CNTR		$\overline{p}p$ *S* channel

[4] Isospins 0 and 1 not separated.
[5] From a fit to the total elastic cross section.
[6] Referred to as T or T region by ALSPECTOR 73.

$f_2(2150)$ WIDTH

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

VALUE (MeV)	*DOCUMENT ID*
194±15 OUR AVERAGE	Includes data from the 2 datablocks that follow this one. Error includes scale factor of 1.6. See the ideogram below.

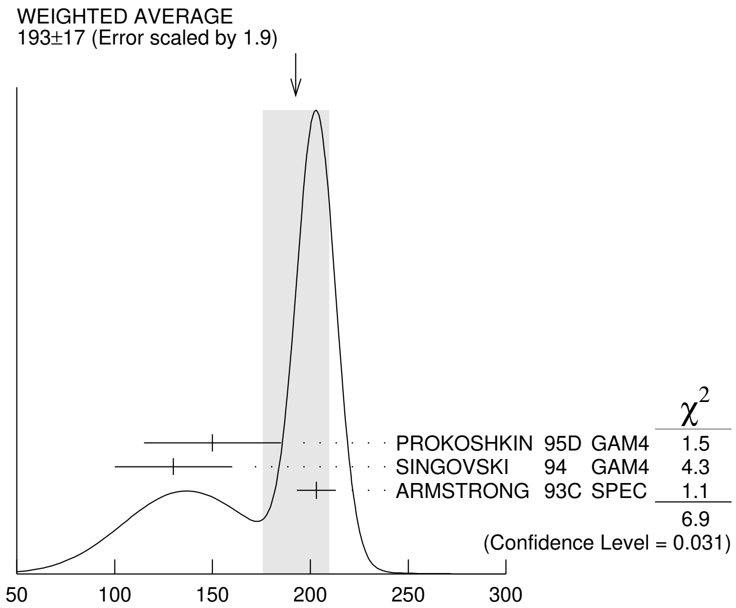


$f_2(2150)$ WIDTH, COMBINED MODES (MeV)

$\eta\eta$ MODE

VALUE (MeV)	*DOCUMENT ID*	*TECN*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.			
193±17 OUR AVERAGE	Error includes scale factor of 1.9. See the ideogram below.		
150±35	PROKOSHKIN 95D	GAM4	300 $\pi^- N \rightarrow \pi^- N 2\eta$, 450 $p p \rightarrow p p 2\eta$
130±30	SINGOVSKI 94	GAM4	450 $p p \rightarrow p p 2\eta$
203±10	[7] ARMSTRONG 93C	SPEC	$\overline{p} p \rightarrow \pi^0 \eta\eta \rightarrow 6\gamma$

[7] No J^{PC} determination.



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

$\eta\pi\pi$ MODE

VALUE (MeV)	*DOCUMENT ID*	*TECN*	*CHG*	*COMMENT*
The data in this block is included in the average printed for a previous datablock.				
250±25±45	ADOMEIT 96	CBAR	0	1.94 $\overline{p}p \to \eta 3\pi^0$

$\overline{p}p \to \pi\pi$

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	$\overline{p}p \to \pi\pi$
~ 250	[8] MARTIN 80B	RVUE	
~ 250	[8] MARTIN 80C	RVUE	
~ 250	[9] DULUDE 78B	OSPK	1–2 $\overline{p}p \to \pi^0\pi^0$

[8] $I(J^P) = 0(2^+)$ from simultaneous analysis of $p\overline{p} \to \pi^-\pi^+$ and $\pi^0\pi^0$.
[9] $I^G(J^P) = 0^+(2^+)$ from partial-wave amplitude analysis.

S-CHANNEL $\overline{p}p$ or $\overline{N}N$

VALUE (MeV)	*DOCUMENT ID*	*TECN*	*CHG*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •				
135±75	[10,11] COUPLAND 77	CNTR	0	0.7–2.4 $\overline{p}p \to \overline{p}p$
98± 8	[11] ALSPECTOR 73	CNTR		$\overline{p}p$ *S* channel

[10] From a fit to the total elastic cross section.
[11] Isospins 0 and 1 not separated.

$f_2(2150)$ DECAY MODES

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

$f_2(2150)$ BRANCHING RATIOS

$\Gamma(K\overline{K})/\Gamma(\eta\eta)$ — Γ_3/Γ_2

VALUE	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.1	95	[12] PROKOSHKIN	95D	GAM4	300 $\pi^- N \rightarrow \pi^- N 2\eta$, 450 $pp \rightarrow pp2\eta$

[12] Using data from ARMSTRONG 89D.

$\Gamma(\pi\pi)/\Gamma(\eta\eta)$ — Γ_1/Γ_2

VALUE	*CL%*	*DOCUMENT ID*		*TECN*	*COMMENT*
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.33	95	[13] PROKOSHKIN	95D	GAM4	300 $\pi^- N \rightarrow \pi^- N 2\eta$, 450 $pp \rightarrow pp2\eta$

[13] 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*
0.79±0.11	[14] ADOMEIT	96	CBAR	1.94 $\overline{p}p \rightarrow \eta 3\pi^0$

[14] Using B($a_2(1320) \rightarrow \eta\pi$) = 0.145

$f_2(2150)$ REFERENCES

ADOMEIT	96	ZPHY C71 227	+Amsler, Armstrong+	(Crystal Barrel Collab.)
PROKOSHKIN	95D	SPD 40 495		(SERP) IGJPC
		Translated from DANS 344 469.		
HASAN	94	PL B334 215	+Bugg	(LOQM)
SINGOVSKI	94	NC 107 1911		(SERP)
ARMSTRONG	93C	PL B307 394	+Bettoni+	(FNAL, FERR, GENO, UCI, NWES+)
ARMSTRONG	89D	PL B227 186	+Benayoun	(ATHU, BARI, BIRM, CERN, CDEF)
MARTIN	80B	NP B176 355	+Morgan	(LOUC, RHEL) JP
MARTIN	80C	NP B169 216	+Pennington	(DURH) JP
CUTTS	78B	PR D17 16	+Good, Grannis, Green, Lee+	(STON, WISC)
DULUDE	78B	PL 79B 335	+Lanou, Massimo, Peaslee+	(BROW, MIT, BARI) JP
COUPLAND	77	PL 71B 460	+Eisenhandler, Gibson, Astbury+	(LOQM, RHEL)
ALSPECTOR	73	PRL 30 511	+Cohen, Cvijanovich+	(RUTG, UPNJ)

OTHER RELATED PAPERS

FIELDS	71	PRL 27 1749	+Cooper, Rhines, Allison	(ANL, OXF)
YOH	71	PRL 26 922	+Barish, Caroll, Lobkowicz+	(CIT, BNL, ROCH)