Reference = ABLIKIM 15P; PR D92 012007
Verifier code = BES3

Normally we send all verifications for one experiment to one person, usually the spokesperson or data-analysis co-ordinator, who then distributes them to the appropriate people. Please tell us if we should send the verifications for your experiment to someone else.

PLEASE READ NOW

PLEASE REPLY WITHIN ONE WEEK

Xiao-Rui Lyu

EMAIL: xiaorui@ucas.ac.cn

July 21, 2016

Dear Colleague,

(1) Please check the results of your experiment carefully. They are marked.

(2) Please reply within one week.

(3) Please reply even if everything is correct.

(4) IMPORTANT!! Please tell WHICH papers you are verifying. We have lots of requests out.

(5) Feel free to make comments on our treatment of any of the results (not just yours) you see.

Thank you for helping us make the Review accurate and useful.

Sincerely,

Simon Eidelman
BINP, Budker Inst. of Nuclear Physics
Prospekt Lavrent'eva 11
RU-630090 Novosibirsk
Russian Federation

EMAIL: simon.eidelman@cern.ch

LIGHT UNFLAVORED MESONS ($S = C = B = 0$)

NODE=MXXX005

For $I = 1$ (π, b, ρ, a): $u\overline{d}$, $(u\overline{u}-d\overline{d})/\sqrt{2}$, $d\overline{u}$;
for $I = 0$ (η, η', h, h', ω, ϕ, f, f'): $c_1(u\overline{u} + d\overline{d}) + c_2(s\overline{s})$

NODE=MXXX005

NODE=M002

$\eta'(958)$

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

$\eta'(958)$ BRANCHING RATIOS

NODE=M002230

$\Gamma(3\pi^0)/\Gamma_{total}$ — **Γ_7/Γ**

NODE=M002R55
NODE=M002R55

	VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
	3.7 ±0.4 OUR AVERAGE					
YOUR DATA	4.79±0.59±1.14	183	[1] ABLIKIM	15P	BES3	$J/\psi \to K^+K^-3\pi$
	3.56±0.22±0.34	309	ABLIKIM	12E	BES3	$J/\psi \to \gamma(3\pi^0)$

YOUR NOTE [1] We have added all systematic uncertainties in quadrature to a single value. — NODE=M002R55;LINKAGE=A

$\Gamma(\pi^+\pi^-\pi^0)/\Gamma_{total}$ — **Γ_{10}/Γ**

NODE=M002R21
NODE=M002R21

	VALUE (units 10^{-3})	EVTS	DOCUMENT ID		TECN	COMMENT
	3.9 ±0.4 OUR AVERAGE					
YOUR DATA	4.28±0.49±1.11	78	[1] ABLIKIM	15P	BES3	$J/\psi \to K^+K^-3\pi$
	3.83±0.15±0.39	1014	ABLIKIM	12E	BES3	$J/\psi \to \gamma(\pi^+\pi^-\pi^0)$
	$3.7\ ^{+1.1}_{-0.9}\ \pm0.4$		[2] NAIK	09	CLEO	$J/\psi \to \gamma\eta'$

YOUR NOTE [1] We have added all systematic uncertainties in quadrature to a single value. — NODE=M002R21;LINKAGE=A
[2] Not independent of measured value of Γ_{10}/Γ_1 from NAIK 09. — NODE=M002R21;LINKAGE=NA

$\eta'(958)$ REFERENCES

NODE=M002

YOUR PAPER

ABLIKIM	15P	PR D92 012007	M. Ablikim *et al.*	(BES III Collab.)
ABLIKIM	12E	PRL 108 182001	M. Ablikim *et al.*	(BES III Collab.)
NAIK	09	PRL 102 061801	P. Naik *et al.*	(CLEO Collab.)

REFID=56781
REFID=54270
REFID=52678

NODE=M003

$f_0(980)$

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

See also the minireview on scalar mesons under $f_0(500)$. (See the index for the page number.)

NODE=M003

$f_0(980)$ MASS

NODE=M003M1

NODE=M003M1

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
990 ±20 OUR ESTIMATE					→ UNCHECKED ←
• • • We do not use the following data for averages, fits, limits, etc. • • •					
YOUR DATA 989.4± 1.3	424	ABLIKIM	15P	BES3	$J/\psi \to K^+K^-3\pi$
989.9± 0.4	706	ABLIKIM	12E	BES3	$J/\psi \to \gamma3\pi$
$1003\ ^{+5}_{-27}$		[1,2] GARCIA-MAR..	11	RVUE	Compilation
996 ± 7		[1,3] GARCIA-MAR..	11	RVUE	Compilation
$996\ ^{+4}_{-14}$		[4] MOUSSALLAM	11	RVUE	Compilation
981 ±43		[5] MENNESSIER	10	RVUE	Compilation
$1030\ ^{+30}_{-10}$		[6] ANISOVICH	09	RVUE	0.0 $\overline{p}p$, πN
$977\ ^{+11}_{-9}\ \pm 1$	44	[7] ECKLUND	09	CLEO	4.17 $e^+e^- \to D_s^- D_s^{*+}$ + c.c.
$982.2\pm 1.0^{+8.1}_{-8.0}$		[8] UEHARA	08A	BELL	10.6 $e^+e^- \to e^+e^-\pi^0\pi^0$
$976.8\pm 0.3^{+10.1}_{-0.6}$	64k	[9] AMBROSINO	07	KLOE	1.02 $e^+e^- \to \pi^0\pi^0\gamma$

OCCUR=2

$984.7 \pm 0.4^{+2.4}_{-3.7}$	64k	[10] AMBROSINO	07	KLOE	1.02 $e^+e^- \to \pi^0\pi^0\gamma$	OCCUR=2
973 ± 3	262 ± 30	[11] AUBERT	07AK	BABR	10.6 $e^+e^- \to \phi\pi^+\pi^-\gamma$	
970 ± 7	54 ± 9	[11] AUBERT	07AK	BABR	10.6 $e^+e^- \to \phi\pi^0\pi^0\gamma$	OCCUR=2
953 ± 20	2.6k	[12] BONVICINI	07	CLEO	$D^+ \to \pi^-\pi^+\pi^+$	
$985.6^{+1.2}_{-1.5} \pm {}^{1.1}_{1.6}$		[13] MORI	07	BELL	10.6 $e^+e^- \to e^+e^-\pi^+\pi^-$	
$983.0 \pm 0.6^{+4.0}_{-3.0}$		[14] AMBROSINO	06B	KLOE	1.02 $e^+e^- \to \pi^+\pi^-\gamma$	
$977.3 \pm 0.9^{+3.7}_{-4.3}$		[15] AMBROSINO	06B	KLOE	1.02 $e^+e^- \to \pi^+\pi^-\gamma$	OCCUR=2
950 ± 9	4286	[16] GARMASH	06	BELL	$B^+ \to K^+\pi^+\pi^-$	
965 ± 10		[17] ABLIKIM	05	BES2	$J/\psi \to \phi\pi^+\pi^-$, ϕK^+K^-	
1031 ± 8		[18] ANISOVICH	03	RVUE		
1037 ± 31		TIKHOMIROV	03	SPEC	40.0 $\pi^- C \to K^0_S K^0_S K^0_L X$	
973 ± 1	2438	[19] ALOISIO	02D	KLOE	$e^+e^- \to \pi^0\pi^0\gamma$	
$977 \pm 3 \pm 2$	848	[20] AITALA	01A	E791	$D^+_s \to \pi^-\pi^+\pi^+$	
969.8 ± 4.5	419	[21] ACHASOV	00H	SND	$e^+e^- \to \pi^0\pi^0\gamma$	
$985 {}^{+16}_{-12}$	419	[22,23] ACHASOV	00H	SND	$e^+e^- \to \pi^0\pi^0\gamma$	OCCUR=2
$976 \pm 5 \pm 6$		[24] AKHMETSHIN	99B	CMD2	$e^+e^- \to \pi^+\pi^-\gamma$	
$977 \pm 3 \pm 6$	268	[24] AKHMETSHIN	99C	CMD2	$e^+e^- \to \pi^0\pi^0\gamma$	
$975 \pm 4 \pm 6$		[25] AKHMETSHIN	99C	CMD2	$e^+e^- \to \pi^0\pi^0\gamma$	OCCUR=2
$975 \pm 4 \pm 6$		[26] AKHMETSHIN	99C	CMD2	$e^+e^- \to \pi^+\pi^-\gamma$, $\pi^0\pi^0\gamma$	OCCUR=3
985 ± 10		BARBERIS	99	OMEG	450 $pp \to p_s p_f K^+K^-$	
982 ± 3		BARBERIS	99B	OMEG	450 $pp \to p_s p_f \pi^+\pi^-$	
982 ± 3		BARBERIS	99C	OMEG	450 $pp \to p_s p_f \pi^0\pi^0$	
$987 \pm 6 \pm 6$		[27] BARBERIS	99D	OMEG	450 $pp \to K^+K^-$, $\pi^+\pi^-$	
989 ± 15		BELLAZZINI	99	GAM4	450 $pp \to pp\pi^0\pi^0$	
991 ± 3		[28] KAMINSKI	99	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$, $\sigma\sigma$	
~ 980		[28] OLLER	99	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$	
~ 993.5		OLLER	99B	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$	
~ 987		[28] OLLER	99C	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$, $\eta\eta$	
957 ± 6		[29] ACKERSTAFF	98Q	OPAL	$Z \to f_0 X$	
960 ± 10		ALDE	98	GAM4		
1015 ± 15		[28] ANISOVICH	98B	RVUE	Compilation	
1008		[30] LOCHER	98	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$	
955 ± 10		[29] ALDE	97	GAM2	450 $pp \to pp\pi^0\pi^0$	
994 ± 9		[31] BERTIN	97C	OBLX	0.0 $\overline{p}p \to \pi^+\pi^-\pi^0$	
$993.2 \pm 6.5 \pm 6.9$		[32] ISHIDA	96	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$	
1006		TORNQVIST	96	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$, $K\pi$, $\eta\pi$	
997 ± 5	3k	[33] ALDE	95B	GAM2	38 $\pi^- p \to \pi^0\pi^0 n$	
960 ± 10	10k	[34] ALDE	95B	GAM2	38 $\pi^- p \to \pi^0\pi^0 n$	OCCUR=2
994 ± 5		AMSLER	95B	CBAR	0.0 $\overline{p}p \to 3\pi^0$	
~ 996		[35] AMSLER	95D	CBAR	0.0 $\overline{p}p \to \pi^0\pi^0\pi^0$, $\pi^0\eta\eta$, $\pi^0\pi^0\eta$	
987 ± 6		[36] ANISOVICH	95	RVUE		
1015		JANSSEN	95	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$	
983		[37] BUGG	94	RVUE	$\overline{p}p \to \eta 2\pi^0$	
973 ± 2		[38] KAMINSKI	94	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$	
988		[39] ZOU	94B	RVUE		
988 ± 10		[40] MORGAN	93	RVUE	$\pi\pi(K\overline{K}) \to \pi\pi(K\overline{K})$, $J/\psi \to \phi\pi\pi(K\overline{K})$, $D_s \to \pi(\pi\pi)$	
971.1 ± 4.0		[29] AGUILAR-...	91	EHS	400 pp	
979 ± 4		[41] ARMSTRONG	91	OMEG	300 $pp \to pp\pi\pi$, $ppK\overline{K}$	
956 ± 12		BREAKSTONE	90	SFM	$pp \to pp\pi^+\pi^-$	
959.4 ± 6.5		[29] AUGUSTIN	89	DM2	$J/\psi \to \omega\pi^+\pi^-$	
978 ± 9		[29] ABACHI	86B	HRS	$e^+e^- \to \pi^+\pi^- X$	

$985.0^{+9.0}_{-39.0}$	ETKIN	82B	MPS	$23\ \pi^- p \rightarrow n 2K^0_S$
974 ± 4	[41] GIDAL	81	MRK2	$J/\psi \rightarrow \pi^+\pi^- X$
975	[42] ACHASOV	80	RVUE	
986 ±10	[41] AGUILAR-...	78	HBC	$0.7\ \overline{p}p \rightarrow K^0_S K^0_S$
969 ± 5	[41] LEEPER	77	ASPK	2–2.4 $\pi^- p \rightarrow \pi^+\pi^- n,\ K^+K^- n$
987 ± 7	[41] BINNIE	73	CNTR	$\pi^- p \rightarrow n$MM
1012 ± 6	[43] GRAYER	73	ASPK	$17\ \pi^- p \rightarrow \pi^+\pi^- n$
1007 ±20	[43] HYAMS	73	ASPK	$17\ \pi^- p \rightarrow \pi^+\pi^- n$
997 ± 6	[43] PROTOPOP...	73	HBC	$7\ \pi^+ p \rightarrow \pi^+ p \pi^+\pi^-$

[1] Quoted number refers to real part of pole position. NODE=M003M1;LINKAGE=GC

[2] Analytic continuation using Roy equations. Uses the K_{e4} data of BATLEY 10C and the $\pi N \rightarrow \pi\pi N$ data of HYAMS 73, GRAYER 74, and PROTOPOPESCU 73. NODE=M003M1;LINKAGE=GM

[3] Analytic continuation using GKPY equations. Uses the K_{e4} data of BATLEY 10C and the $\pi N \rightarrow \pi\pi N$ data of HYAMS 73, GRAYER 74, and PROTOPOPESCU 73. NODE=M003M1;LINKAGE=GI

[4] Pole position. Used Roy equations. NODE=M003M1;LINKAGE=MU

[5] Average of the analyses of three data sets in the K-matrix model. Uses the data of BATLEY 08A, HYAMS 73, and GRAYER 74, partially of COHEN 80 or ETKIN 82B. NODE=M003M1;LINKAGE=ME

[6] On sheet II in a 2-pole solution. The other pole is found on sheet III at (850−100i) MeV NODE=M003M1;LINKAGE=AO

[7] Using a relativistic Breit-Wigner function and taking into account the finite D_s mass. NODE=M003M1;LINKAGE=EC

[8] Breit-Wigner mass. Using finite width corrections according to FLATTE 76 and ACHASOV 05, and the ratio $g_{f_0 K K}/g_{f_0 \pi\pi} = 0$. NODE=M003M1;LINKAGE=UE

[9] In the kaon-loop fit. NODE=M003M1;LINKAGE=AK

[10] In the no-structure fit. NODE=M003M1;LINKAGE=AS

[11] Systematic errors not estimated. NODE=M003M1;LINKAGE=NS

[12] FLATTE 76 parameterization. $g_{f_0 \pi\pi} = 329 \pm 96$ MeV/c^2 assuming $g_{f_0 K\overline{K}}/g_{f_0 \pi\pi}$=2. NODE=M003M1;LINKAGE=BO

[13] Breit-Wigner mass. Using finite width corrections according to FLATTE 76 and ACHASOV 05, and the ratio $g_{f_0 K K}/g_{f_0 \pi\pi} = 4.21 \pm 0.25 \pm 0.21$ from ABLIKIM 05. NODE=M003M1;LINKAGE=MO

[14] In the kaon-loop fit following formalism of ACHASOV 89. NODE=M003M1;LINKAGE=AB

[15] In the no-structure fit assuming a direct coupling of ϕ to $f_0\gamma$. NODE=M003M1;LINKAGE=AM

[16] FLATTE 76 parameterization. Supersedes GARMASH 05. NODE=M003M1;LINKAGE=GR

[17] FLATTE 76 parameterization, $g_{f_0 K\overline{K}}/g_{f_0 \pi\pi} = 4.21 \pm 0.25 \pm 0.21$. NODE=M003M1;LINKAGE=AL

[18] K-matrix pole from combined analysis of $\pi^- p \rightarrow \pi^0\pi^0 n$, $\pi^- p \rightarrow K\overline{K} n$, $\pi^+\pi^- \rightarrow \pi^+\pi^-$, $\overline{p}p \rightarrow \pi^0\pi^0\pi^0$, $\pi^0\eta\eta$, $\pi^0\pi^0\eta$, $\pi^+\pi^-\pi^0$, $K^+K^-\pi^0$, $K^0_S K^0_S \pi^0$, $K^+ K^0_S \pi^-$ at rest, $\overline{p}n \rightarrow \pi^-\pi^-\pi^+$, $K^0_S K^- \pi^0$, $K^0_S K^0_S \pi^-$ at rest. NODE=M003M;LINKAGE=KM

[19] From the negative interference with the $f_0(500)$ meson of AITALA 01B using the ACHASOV 89 parameterization for the $f_0(980)$, a Breit-Wigner for the $f_0(500)$, and ACHASOV 01F for the $\rho\pi$ contribution. NODE=M003M1;LINKAGE=KD

[20] Coupled-channel Breit-Wigner, couplings g_π=0.09±0.01±0.01, g_K=0.02±0.04±0.03. NODE=M003M;LINKAGE=TL

[21] Supersedes ACHASOV 98I. Using the model of ACHASOV 89. NODE=M003M;LINKAGE=V9

[22] Supersedes ACHASOV 98I. NODE=M003M;LINKAGE=V8

[23] In the "narrow resonance" approximation. NODE=M003M1;LINKAGE=AI

[24] Assuming $\Gamma(f_0)$= 40 MeV. NODE=M003M;LINKAGE=SM

[25] From a narrow pole fit taking into account $f_0(980)$ and $f_0(1200)$ intermediate mechanisms. NODE=M003M;LINKAGE=ST

[26] From the combined fit of the photon spectra in the reactions $e^+e^- \rightarrow \pi^+\pi^-\gamma$, $\pi^0\pi^0\gamma$. NODE=M003M;LINKAGE=SL

[27] Supersedes BARBERIS 99 and BARBERIS 99B NODE=M003M1;LINKAGE=BD

[28] T-matrix pole. NODE=M003M1;LINKAGE=AN

[29] From invariant mass fit. NODE=M003M1;LINKAGE=A

[30] On sheet II in a 2 pole solution. The other pole is found on sheet III at (1039−93i) MeV. NODE=M003M1;LINKAGE=LC

[31] On sheet II in a 2 pole solution. The other pole is found on sheet III at (963-29i) MeV. NODE=M003M1;LINKAGE=X

[32] Reanalysis of data from HYAMS 73, GRAYER 74, SRINIVASAN 75, and ROSSELET 77 using the interfering amplitude method. NODE=M003M1;LINKAGE=AA

[33] At high $|t|$. NODE=M003M1;LINKAGE=LA

[34] At low $|t|$. NODE=M003M1;LINKAGE=LB

[35] On sheet II in a 4-pole solution, the other poles are found on sheet III at (953−55i) MeV and on sheet IV at (938−35i) MeV. NODE=M003M1;LINKAGE=KL

[36] Combined fit of ALDE 95B, ANISOVICH 94, AMSLER 94D. NODE=M003M1;LINKAGE=CF

[37] On sheet II in a 2 pole solution. The other pole is found on sheet III at (996−103i) MeV. NODE=M003M1;LINKAGE=C2

[38] From sheet II pole position. NODE=M003M1;LINKAGE=KM

[39] On sheet II in a 2 pole solution. The other pole is found on sheet III at (797−185i) MeV and can be interpreted as a shadow pole. NODE=M003M1;LINKAGE=L

[40] On sheet II in a 2 pole solution. The other pole is found on sheet III at (978−28i) MeV. NODE=M003M1;LINKAGE=K

[41] From coupled channel analysis. NODE=M003M1;LINKAGE=B

[42] Coupled channel analysis with finite width corrections. NODE=M003M;LINKAGE=B

[43] Included in AGUILAR-BENITEZ 78 fit. NODE=M003M;LINKAGE=R

$f_0(980)$ WIDTH

NODE=M003W1

Width determination very model dependent. Peak width in $\pi\pi$ is about 50 MeV, but decay width can be much larger. NODE=M003W1

NODE=M003W1

	VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
	10 to 100 OUR ESTIMATE					→ UNCHECKED ←
	• • • We do not use the following data for averages, fits, limits, etc. • • •					
YOUR DATA	15.3 ± 4.7	424	ABLIKIM	15P	BES3	$J/\psi \to K^+ K^- 3\pi$
	9.5 ± 1.1	706	ABLIKIM	12E	BES3	$J/\psi \to \gamma 3\pi$
	$42 {}^{+20}_{-16}$		[1,2] GARCIA-MAR..	11	RVUE	Compilation
	$50 {}^{+20}_{-12}$		[2,3] GARCIA-MAR..	11	RVUE	Compilation OCCUR=2
	$48 {}^{+22}_{-6}$		[4] MOUSSALLAM	11	RVUE	Compilation
	36 ± 22		[5] MENNESSIER	10	RVUE	Compilation
	$70 {}^{+20}_{-32}$		[6] ANISOVICH	09	RVUE	0.0 $\bar{p}p$, πN
	$91 {}^{+30}_{-22} \pm 3$	44	[7] ECKLUND	09	CLEO	4.17 $e^+e^- \to D_s^- D_s^{*+}$ + c.c.
	$66.9 \pm 2.2 {}^{+17.6}_{-12.5}$		[8] UEHARA	08A	BELL	10.6 $e^+e^- \to e^+e^-\pi^0\pi^0$
	65 ± 13	262 ± 30	[9] AUBERT	07AK	BABR	10.6 $e^+e^- \to \phi\pi^+\pi^-\gamma$
	81 ± 21	54 ± 9	[9] AUBERT	07AK	BABR	10.6 $e^+e^- \to \phi\pi^0\pi^0\gamma$ OCCUR=2
	$51.3 {}^{+20.8}_{-17.7} {}^{+13.2}_{-3.8}$		[10] MORI	07	BELL	10.6 $e^+e^- \to e^+e^-\pi^+\pi^-$
	$61 \pm 9 {}^{+14}_{-8}$	2584	[11] GARMASH	05	BELL	$B^+ \to K^+\pi^+\pi^-$
	64 ± 16		[12] ANISOVICH	03	RVUE	
	121 ± 23		TIKHOMIROV	03	SPEC	40.0 $\pi^- C \to K_S^0 K_S^0 K_L^0 X$
	~ 70		[13] BRAMON	02	RVUE	1.02 $e^+e^- \to \pi^0\pi^0\gamma$
	$44 \pm 2 \pm 2$	848	[14] AITALA	01A	E791	$D_s^+ \to \pi^-\pi^+\pi^+$
	201 ± 28	419	[15] ACHASOV	00H	SND	$e^+e^- \to \pi^0\pi^0\gamma$
	122 ± 13	419	[16,17] ACHASOV	00H	SND	$e^+e^- \to \pi^0\pi^0\gamma$ OCCUR=2
	56 ± 20		[18] AKHMETSHIN	99C	CMD2	$e^+e^- \to \pi^0\pi^0\gamma$
	65 ± 20		BARBERIS	99	OMEG	450 $pp \to p_s p_f K^+K^-$
	80 ± 10		BARBERIS	99B	OMEG	450 $pp \to p_s p_f \pi^+\pi^-$
	80 ± 10		BARBERIS	99C	OMEG	450 $pp \to p_s p_f \pi^0\pi^0$
	$48 \pm 12 \pm 8$		[19] BARBERIS	99D	OMEG	450 $pp \to K^+K^-$, $\pi^+\pi^-$
	65 ± 25		BELLAZZINI	99	GAM4	450 $pp \to pp\pi^0\pi^0$
	71 ± 14		[20] KAMINSKI	99	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$, $\sigma\sigma$
	~ 28		[20] OLLER	99	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$
	~ 25		OLLER	99B	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$
	~ 14		[20] OLLER	99C	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$, $\eta\eta$
	70 ± 20		ALDE	98	GAM4	
	86 ± 16		[20] ANISOVICH	98B	RVUE	Compilation
	54		[21] LOCHER	98	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$
	69 ± 15		[22] ALDE	97	GAM2	450 $pp \to pp\pi^0\pi^0$
	38 ± 20		[23] BERTIN	97C	OBLX	0.0 $\bar{p}p \to \pi^+\pi^-\pi^0$
	~ 100		[24] ISHIDA	96	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$
	34		TORNQVIST	96	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$, $K\pi$, $\eta\pi$
	48 ± 10	3k	[25] ALDE	95B	GAM2	38 $\pi^- p \to \pi^0\pi^0 n$
	95 ± 20	10k	[26] ALDE	95B	GAM2	38 $\pi^- p \to \pi^0\pi^0 n$ OCCUR=2
	26 ± 10		AMSLER	95B	CBAR	0.0 $\bar{p}p \to 3\pi^0$
	~ 112		[27] AMSLER	95D	CBAR	0.0 $\bar{p}p \to \pi^0\pi^0\pi^0$, $\pi^0\eta\eta$, $\pi^0\pi^0\eta$
	80 ± 12		[28] ANISOVICH	95	RVUE	
	30		JANSSEN	95	RVUE	$\pi\pi \to \pi\pi$, $K\overline{K}$

74	[29] BUGG	94	RVUE	$\overline{p}p \rightarrow \eta 2\pi^0$
29 ± 2	[30] KAMINSKI	94	RVUE	$\pi\pi \rightarrow \pi\pi$, $K\overline{K}$
46	[31] ZOU	94B	RVUE	
48 ± 12	[32] MORGAN	93	RVUE	$\pi\pi(K\overline{K}) \rightarrow \pi\pi(K\overline{K})$, $J/\psi \rightarrow \phi\pi\pi(K\overline{K})$, $D_s \rightarrow \pi(\pi\pi)$
37.4 ± 10.6	[22] AGUILAR-...	91	EHS	400 pp
72 ± 8	[33] ARMSTRONG	91	OMEG	300 $pp \rightarrow pp\pi\pi$, $ppK\overline{K}$
110 ± 30	BREAKSTONE	90	SFM	$pp \rightarrow pp\pi^+\pi^-$
29 ± 13	[22] ABACHI	86B	HRS	$e^+e^- \rightarrow \pi^+\pi^- X$
120 ±281 ±20	ETKIN	82B	MPS	23 $\pi^- p \rightarrow n2K^0_S$
28 ± 10	[33] GIDAL	81	MRK2	$J/\psi \rightarrow \pi^+\pi^- X$
70 to 300	[34] ACHASOV	80	RVUE	
100 ± 80	[35] AGUILAR-...	78	HBC	0.7 $\overline{p}p \rightarrow K^0_S K^0_S$
30 ± 8	[33] LEEPER	77	ASPK	2–2.4 $\pi^- p \rightarrow \pi^+\pi^- n$, $K^+K^- n$
48 ± 14	[33] BINNIE	73	CNTR	$\pi^- p \rightarrow n$MM
32 ± 10	[36] GRAYER	73	ASPK	17 $\pi^- p \rightarrow \pi^+\pi^- n$
30 ± 10	[36] HYAMS	73	ASPK	17 $\pi^- p \rightarrow \pi^+\pi^- n$
54 ± 16	[36] PROTOPOP...	73	HBC	7 $\pi^+ p \rightarrow \pi^+ p\pi^+\pi^-$

[1] Analytic continuation using Roy equations. Uses the K_{e4} data of BATLEY 10C and the $\pi N \rightarrow \pi\pi N$ data of HYAMS 73, GRAYER 74, and PROTOPOPESCU 73. NODE=M003W1;LINKAGE=GC

[2] Quoted number refers to twice imaginary part of pole position. NODE=M003W1;LINKAGE=GI

[3] Analytic continuation using GKPY equations. Uses the K_{e4} data of BATLEY 10C and the $\pi N \rightarrow \pi\pi N$ data of HYAMS 73, GRAYER 74, and PROTOPOPESCU 73. NODE=M003W1;LINKAGE=GM

[4] Pole position. Used Roy equations. NODE=M003W1;LINKAGE=MU

[5] Average of the analyses of three data sets in the K-matrix model. Uses the data of BATLEY 08A, HYAMS 73, and GRAYER 74, partially of COHEN 80 or ETKIN 82B. NODE=M003W1;LINKAGE=ME

[6] On sheet II in a 2-pole solution. The other pole is found on sheet III at (850−100i) MeV NODE=M003W1;LINKAGE=AO

[7] Using a relativistic Breit-Wigner function and taking into account the finite D_s mass. NODE=M003W1;LINKAGE=EC

[8] Breit-Wigner $\pi\pi$ width. Using finite width corrections according to FLATTE 76 and ACHASOV 05, and the ratio $g_{f_0 KK}/g_{f_0 \pi\pi} = 0$. NODE=M003W1;LINKAGE=UE

[9] Systematic errors not estimated. NODE=M003W1;LINKAGE=NS

[10] Breit-Wigner $\pi\pi$ width. Using finite width corrections according to FLATTE 76 and ACHASOV 05, and the ratio $g_{f_0 KK}/g_{f_0 \pi\pi} = 4.21 \pm 0.25 \pm 0.21$ from ABLIKIM 05. NODE=M003W1;LINKAGE=MO

[11] Breit-Wigner, solution 1, PWA ambiguous. NODE=M003W1;LINKAGE=GA

[12] K-matrix pole from combined analysis of $\pi^- p \rightarrow \pi^0\pi^0 n$, $\pi^- p \rightarrow K\overline{K} n$, $\pi^+\pi^- \rightarrow \pi^+\pi^-$, $\overline{p}p \rightarrow \pi^0\pi^0\pi^0$, $\pi^0\eta\eta$, $\pi^0\pi^0\eta$, $\pi^+\pi^-\pi^0$, $K^+K^-\pi^0$, $K^0_S K^0_S \pi^0$, $K^+K^0_S\pi^-$ at rest, $\overline{p}n \rightarrow \pi^-\pi^-\pi^+$, $K^0_S K^-\pi^0$, $K^0_S K^0_S \pi^-$ at rest. NODE=M003W;LINKAGE=KM

[13] Using the data of AKHMETSHIN 99C, ACHASOV 00H, and ALOISIO 02D. NODE=M003W;LINKAGE=BR

[14] Breit-Wigner width. NODE=M003W;LINKAGE=TL

[15] Supersedes ACHASOV 98I. Using the model of ACHASOV 89. NODE=M003W;LINKAGE=V9

[16] Supersedes ACHASOV 98I. NODE=M003W;LINKAGE=V8

[17] In the "narrow resonance" approximation. NODE=M003W1;LINKAGE=AI

[18] From the combined fit of the photon spectra in the reactions $e^+e^- \rightarrow \pi^+\pi^-\gamma$, $\pi^0\pi^0\gamma$. NODE=M003W;LINKAGE=SL

[19] Supersedes BARBERIS 99 and BARBERIS 99B NODE=M003W1;LINKAGE=BD

[20] T-matrix pole. NODE=M003W1;LINKAGE=AN

[21] On sheet II in a 2 pole solution. The other pole is found on sheet III at (1039−93i) MeV. NODE=M003W1;LINKAGE=LO

[22] From invariant mass fit. NODE=M003W1;LINKAGE=A

[23] On sheet II in a 2 pole solution. The other pole is found on sheet III at (963-29i) MeV. NODE=M003W1;LINKAGE=X

[24] Reanalysis of data from HYAMS 73, GRAYER 74, SRINIVASAN 75, and ROSSELET 77 using the interfering amplitude method. NODE=M003W1;LINKAGE=AA

[25] At high $|t|$. NODE=M003W1;LINKAGE=LA

[26] At low $|t|$. NODE=M003W1;LINKAGE=LB

[27] On sheet II in a 4-pole solution, the other poles are found on sheet III at (953−55i) MeV and on sheet IV at (938−35i) MeV. NODE=M003W1;LINKAGE=KL

[28] Combined fit of ALDE 95B, ANISOVICH 94, NODE=M003W1;LINKAGE=CF

[29] On sheet II in a 2 pole solution. The other pole is found on sheet III at (996−103i) MeV. NODE=M003W1;LINKAGE=C2

[30] From sheet II pole position. NODE=M003W1;LINKAGE=KM

[31] On sheet II in a 2 pole solution. The other pole is found on sheet III at (797−185i) MeV and can be interpreted as a shadow pole. NODE=M003W1;LINKAGE=L

[32] On sheet II in a 2 pole solution. The other pole is found on sheet III at (978−28i) MeV. NODE=M003W1;LINKAGE=K

[33] From coupled channel analysis. NODE=M003W1;LINKAGE=B

[34] Coupled channel analysis with finite width corrections. NODE=M003W;LINKAGE=B

[35] From coupled channel fit to the HYAMS 73 and PROTOPOPESCU 73 data. With a simultaneous fit to the $\pi\pi$ phase-shifts, inelasticity and to the $K^0_S K^0_S$ invariant mass. NODE=M003W;LINKAGE=C

[36] Included in AGUILAR-BENITEZ 78 fit. NODE=M003W;LINKAGE=R

$f_0(980)$ REFERENCES

NODE=M003

YOUR PAPER	ABLIKIM	15P	PR D92 012007	M. Ablikim *et al.* (BES III Collab.)	REFID=56781
	ABLIKIM	12E	PRL 108 182001	M. Ablikim *et al.* (BES III Collab.)	REFID=54270
	GARCIA-MAR...	11	PRL 107 072001	R. Garcia-Martin *et al.* (MADR, CRAC)	REFID=16761
	MOUSSALLAM	11	EPJ C71 1814	B. Moussallam	REFID=53975
	BATLEY	10C	EPJ C70 635	J.R. Batley *et al.* (CERN NA48/2 Collab.)	REFID=53567
	MENNESSIER	10	PL B688 59	G. Mennessier, S. Narison, X.-G. Wang	REFID=53657
	ANISOVICH	09	IJMP A24 2481	V.V. Anisovich, A.V. Sarantsev	REFID=52719
	ECKLUND	09	PR D80 052009	K.M. Ecklund *et al.* (CLEO Collab.)	REFID=53041
	BATLEY	08A	EPJ C54 411	J.R. Batley *et al.* (CERN NA48/2 Collab.)	REFID=52487
	UEHARA	08A	PR D78 052004	S. Uehara *et al.* (BELLE Collab.)	REFID=52309
	AMBROSINO	07	EPJ C49 473	F. Ambrosino *et al.* (KLOE Collab.)	REFID=51616
	AUBERT	07AK	PR D76 012008	B. Aubert *et al.* (BABAR Collab.)	REFID=51908
	BONVICINI	07	PR D76 012001	G. Bonvicini *et al.* (CLEO Collab.)	REFID=51721
	MORI	07	PR D75 051101	T. Mori *et al.* (BELLE Collab.)	REFID=51652
	AMBROSINO	06B	PL B634 148	F. Ambrosino *et al.* (KLOE Collab.)	REFID=51043
	GARMASH	06	PRL 96 251803	A. Garmash *et al.* (BELLE Collab.)	REFID=51162
	ABLIKIM	05	PL B607 243	M. Ablikim *et al.* (BES Collab.)	REFID=50450
	ACHASOV	05	PR D72 013006	N.N. Achasov, G.N. Shestakov	REFID=50762
	GARMASH	05	PR D71 092003	A. Garmash *et al.* (BELLE Collab.)	REFID=50641
	ANISOVICH	03	EPJ A16 229	V.V. Anisovich *et al.*	REFID=49401
	TIKHOMIROV	03	PAN 66 828	G.D. Tikhomirov *et al.*	REFID=49423
			Translated from YAF 66 860.		
	ALOISIO	02D	PL B537 21	A. Aloisio *et al.* (KLOE Collab.)	REFID=48824
	BRAMON	02	EPJ C26 253	A. Bramon *et al.*	REFID=49178
	ACHASOV	01F	PR D63 094007	N.N. Achasov, V.V. Gubin (Novosibirsk SND Collab.)	REFID=48312
	AITALA	01A	PRL 86 765	E.M. Aitala *et al.* (FNAL E791 Collab.)	REFID=48004
	AITALA	01B	PRL 86 770	E.M. Aitala *et al.* (FNAL E791 Collab.)	REFID=48005
	ACHASOV	00H	PL B485 349	M.N. Achasov *et al.* (Novosibirsk SND Collab.)	REFID=47930
	AKHMETSHIN	99B	PL B462 371	R.R. Akhmetshin *et al.* (Novosibirsk CMD-2 Collab.)	REFID=47392
	AKHMETSHIN	99C	PL B462 380	R.R. Akhmetshin *et al.* (Novosibirsk CMD-2 Collab.)	REFID=47393
	BARBERIS	99	PL B453 305	D. Barberis *et al.* (Omega Expt.)	REFID=46921
	BARBERIS	99B	PL B453 316	D. Barberis *et al.* (Omega Expt.)	REFID=46922
	BARBERIS	99C	PL B453 325	D. Barberis *et al.* (Omega Expt.)	REFID=46923
	BARBERIS	99D	PL B462 462	D. Barberis *et al.* (Omega Expt.)	REFID=47395
	BELLAZZINI	99	PL B467 296	R. Bellazzini *et al.*	REFID=47400
	KAMINSKI	99	EPJ C9 141	R. Kaminski, L. Lesniak, B. Loiseau (CRAC, PARIN)	REFID=46927
	OLLER	99	PR D60 099906 (erratum)	J.A. Oller *et al.*	REFID=46899
	OLLER	99B	NP A652 407 (erratum)	J.A. Oller, E. Oset	REFID=46924
	OLLER	99C	PR D60 074023	J.A. Oller, E. Oset	REFID=47386
	ACHASOV	98I	PL B440 442	M.N. Achasov *et al.*	REFID=46600
	ACKERSTAFF	98Q	EPJ C4 19	K. Ackerstaff *et al.* (OPAL Collab.)	REFID=46145
	ALDE	98	EPJ A3 361	D. Alde *et al.* (GAM4 Collab.)	REFID=46605
	Also		PAN 62 405	D. Alde *et al.* (GAMS Collab.)	REFID=46914
			Translated from YAF 62 446.		
	ANISOVICH	98B	SPU 41 419	V.V. Anisovich *et al.*	REFID=46331
			Translated from UFN 168 481.		
	LOCHER	98	EPJ C4 317	M.P. Locher *et al.* (PSI)	REFID=46372
	ALDE	97	PL B397 350	D.M. Alde *et al.* (GAMS Collab.)	REFID=45392
	BERTIN	97C	PL B408 476	A. Bertin *et al.* (OBELIX Collab.)	REFID=45701
	ISHIDA	96	PTP 95 745	S. Ishida *et al.* (TOKY, MIYA, KEK)	REFID=45770
	TORNQVIST	96	PRL 76 1575	N.A. Tornqvist, M. Roos (HELS)	REFID=44507
	ALDE	95B	ZPHY C66 375	D.M. Alde *et al.* (GAMS Collab.)	REFID=44375
	AMSLER	95B	PL B342 433	C. Amsler *et al.* (Crystal Barrel Collab.)	REFID=44377
	AMSLER	95D	PL B355 425	C. Amsler *et al.* (Crystal Barrel Collab.)	REFID=44441
	ANISOVICH	95	PL B355 363	V.V. Anisovich *et al.* (PNPI, SERP)	REFID=44442
	JANSSEN	95	PR D52 2690	G. Janssen *et al.* (STON, ADLD, JULI)	REFID=44508
	AMSLER	94D	PL B333 277	C. Amsler *et al.* (Crystal Barrel Collab.)	REFID=44093
	ANISOVICH	94	PL B323 233	V.V. Anisovich *et al.* (Crystal Barrel Collab.)	REFID=43659
	BUGG	94	PR D50 4412	D.V. Bugg *et al.* (LOQM)	REFID=44078
	KAMINSKI	94	PR D50 3145	R. Kaminski, L. Lesniak, J.P. Maillet (CRAC+)	REFID=45771
	ZOU	94B	PR D50 591	B.S. Zou, D.V. Bugg (LOQM)	REFID=44072
	MORGAN	93	PR D48 1185	D. Morgan, M.R. Pennington (RAL, DURH)	REFID=43614
	AGUILAR-...	91	ZPHY C50 405	M. Aguilar-Benitez *et al.* (LEBC-EHS Collab.)	REFID=41637
	ARMSTRONG	91	ZPHY C51 351	T.A. Armstrong *et al.* (ATHU, BARI, BIRM+)	REFID=41744
	BREAKSTONE	90	ZPHY C48 569	A.M. Breakstone *et al.* (ISU, BGNA, CERN+)	REFID=41376
	ACHASOV	89	NP B315 465	N.N. Achasov, V.N. Ivanchenko	REFID=48021
	AUGUSTIN	89	NP B320 1	J.E. Augustin, G. Cosme (DM2 Collab.)	REFID=41004
	ABACHI	86B	PRL 57 1990	S. Abachi *et al.* (PURD, ANL, IND, MICH+)	REFID=20394
	ETKIN	82B	PR D25 1786	A. Etkin *et al.* (BNL, CUNY, TUFTS, VAND)	REFID=20390
	GIDAL	81	PL 107B 153	G. Gidal *et al.* (SLAC, LBL)	REFID=20386
	ACHASOV	80	SJNP 32 566	N.N. Achasov, S.A. Devyanin, G.N. Shestakov (NOVM)	REFID=20458
			Translated from YAF 32 1098.		
	COHEN	80	PR D22 2595	D. Cohen *et al.* (ANL) IJP	REFID=20381
	AGUILAR-...	78	NP B140 73	M. Aguilar-Benitez *et al.* (MADR, BOMB+)	REFID=20368
	LEEPER	77	PR D16 2054	R.J. Leeper *et al.* (ISU)	REFID=20365
	ROSSELET	77	PR D15 574	L. Rosselet *et al.* (GEVA, SACL)	REFID=11004
	FLATTE	76	PL 63B 224	S.M. Flatte (CERN)	REFID=20446
	SRINIVASAN	75	PR D12 681	V. Srinivasan *et al.* (NDAM, ANL)	REFID=21062
	GRAYER	74	NP B75 189	G. Grayer *et al.* (CERN, MPIM)	REFID=20113
	BINNIE	73	PRL 31 1534	D.M. Binnie *et al.* (LOIC, SHMP)	REFID=20343
	GRAYER	73	Tallahassee	G. Grayer *et al.* (CERN, MPIM)	REFID=20347
	HYAMS	73	NP B64 134	B.D. Hyams *et al.* (CERN, MPIM)	REFID=20107
	PROTOPOP...	73	PR D7 1279	S.D. Protopopescu *et al.* (LBL)	REFID=20108

NODE=M008

$f_1(1285)$

$I^G(J^{PC}) = 0^+(1^{++})$

$f_1(1285)$ MASS

NODE=M008M

NODE=M008M

	VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
	1282.0 ± 0.5 OUR AVERAGE Error includes scale factor of 1.8. See the ideogram below.					
YOUR DATA	1287.4 ± 3.0	87	ABLIKIM	15P	BES3	$J/\psi \to K^+ K^- 3\pi$
	1281.16 ± 0.39 ± 0.45		[1] LEES	12X	BABR	$\tau^- \to \pi^- f_1(1285) \nu_\tau$
	1285.1 ± 1.0 $^{+1.6}_{-0.3}$		[2] ABLIKIM	11J	BES3	$J/\psi \to \omega(\eta\pi^+\pi^-)$
	1281 ± 2 ± 1		AUBERT	07AU	BABR	10.6 $e^+e^- \to f_1(1285)\pi^+\pi^-\gamma$
	1276.1 ± 8.1 ± 8.0	203	BAI	04J	BES2	$J/\psi \to \gamma\gamma\pi^+\pi^-$
	1274 ± 6	237	ABDALLAH	03H	DLPH	91.2 $e^+e^- \to K^0_S K^\pm \pi^\mp + X$
	1280 ± 4		ACCIARRI	01G	L3	
	1288 ± 4 ± 5	20k	ADAMS	01B	B852	18 GeV $\pi^- p \to K^+ K^- \pi^0 n$
	1284 ± 6	1400	ALDE	97B	GAM4	100 $\pi^- p \to \eta\pi^0\pi^0 n$
	1281 ± 1		BARBERIS	97B	OMEG	450 $pp \to pp2(\pi^+\pi^-)$
	1281 ± 1		BARBERIS	97C	OMEG	450 $pp \to ppK^0_S K^\pm\pi^\mp$
	1280 ± 2		[3] ANTINORI	95	OMEG	300,450 $pp \to pp2(\pi^+\pi^-)$
	1282.2 ± 1.5		LEE	94	MPS2	18 $\pi^- p \to K^+ \overline{K}^0 2\pi^- p$
	1279 ± 5		FUKUI	91C	SPEC	8.95 $\pi^- p \to \eta\pi^+\pi^- n$
	1278 ± 2	140	ARMSTRONG	89	OMEG	300 $pp \to K\overline{K}\pi pp$
	1278 ± 2		ARMSTRONG	89G	OMEG	85 $\pi^+ p \to 4\pi\pi p$, $pp \to 4\pi pp$
	1280.1 ± 2.1	60	RATH	89	MPS	21.4 $\pi^- p \to K^0_S K^0_S \pi^0 n$
	1285 ± 1	4750	[4] BIRMAN	88	MPS	8 $\pi^- p \to K^+ \overline{K}^0 \pi^- n$
	1280 ± 1	504	BITYUKOV	88	SPEC	32.5 $\pi^- p \to K^+ K^- \pi^0 n$
	1280 ± 4		ANDO	86	SPEC	8 $\pi^- p \to \eta\pi^+\pi^- n$
	1277 ± 2	420	REEVES	86	SPEC	6.6 $p\overline{p} \to KK\pi X$
	1285 ± 2		CHUNG	85	SPEC	8 $\pi^- p \to NK\overline{K}\pi$
	1279 ± 2	604	ARMSTRONG	84	OMEG	85 $\pi^+ p \to K\overline{K}\pi\pi p$, $pp \to K\overline{K}\pi pp$
	1286 ± 1		CHAUVAT	84	SPEC	ISR 31.5 pp
	1278 ± 4		EVANGELIS...	81	OMEG	12 $\pi^- p \to \eta\pi^+\pi^-\pi^- p$
	1283 ± 3	103	DIONISI	80	HBC	4 $\pi^- p \to K\overline{K}\pi n$
	1282 ± 2	320	NACASCH	78	HBC	0.7,0.76 $\overline{p}p \to K\overline{K}3\pi$
	1279 ± 5	210	GRASSLER	77	HBC	16 $\pi^\mp p$
	1286 ± 3	180	DUBOC	72	HBC	1.2 $\overline{p}p \to 2K4\pi$
	1283 ± 5		DAHL	67	HBC	1.6–4.2 $\pi^- p$
	• • • We do not use the following data for averages, fits, limits, etc. • • •					
	1284.2 ± 2.2		[5] AAIJ	14Y	LHCB	$\overline{B}^0_{(s)} \to J/\psi 2(\pi^+\pi^-)$
	1281.9 ± 0.5		[5] SOSA	99	SPEC	$pp \to p_{\rm slow} (K^0_S K^+\pi^-) p_{\rm fast}$
	1282.8 ± 0.6		[5] SOSA	99	SPEC	$pp \to p_{\rm slow} (K^0_S K^-\pi^+) p_{\rm fast}$
	1270 ± 10		AMELIN	95	VES	37 $\pi^- N \to \pi^-\pi^+\pi^-\gamma N$
	1280 ± 2		ABATZIS	94	OMEG	450 $pp \to pp2(\pi^+\pi^-)$
	1282 ± 4		ARMSTRONG	93C	E760	$\overline{p}p \to \pi^0\eta\eta \to 6\gamma$
	1270 ± 6 ± 10		ARMSTRONG	92C	OMEG	300 $pp \to pp\pi^+\pi^-\gamma$
	1281 ± 1		ARMSTRONG	89E	OMEG	300 $pp \to pp2(\pi^+\pi^-)$
	1279 ± 6 ± 10	16	BECKER	87	MRK3	$e^+e^- \to \phi K\overline{K}\pi$
	1286 ± 9		GIDAL	87	MRK2	$e^+e^- \to e^+e^-\eta\pi^+\pi^-$
	1287 ± 5	353	BITYUKOV	84B	SPEC	32 $\pi^- p \to K^+ K^- \pi^0 n$
	∼ 1279		[6] TORNQVIST	82B	RVUE	
	1275 ± 6	31	BROMBERG	80	SPEC	100 $\pi^- p \to K\overline{K}\pi X$
	1288 ± 9	200	GURTU	79	HBC	4.2 $K^- p \to n\eta 2\pi$

OCCUR=2

$\sim$ 1275.0	46	[7] STANTON	79	CNTR	8.5 $\pi^- p \to n 2\gamma 2\pi$
1271 ±10	34	CORDEN	78	OMEG	12–15 $\pi^- p \to K^+ K^- \pi n$
1295 ±12	85	CORDEN	78	OMEG	12–15 $\pi^- p \to n 5\pi$
1292 ±10	150	DEFOIX	72	HBC	0.7 $\overline{p} p \to 7\pi$
1280 ± 3	500	[8] THUN	72	MMS	13.4 $\pi^- p$
1303 ± 8		BARDADIN-...	71	HBC	8 $\pi^+ p \to p 6\pi$
1283 ± 6		BOESEBECK	71	HBC	16.0 $\pi p \to p 5\pi$
1270 ±10		CAMPBELL	69	DBC	2.7 $\pi^+ d$
1285 ± 7		LORSTAD	69	HBC	0.7 $\overline{p} p$, 4,5-body
1290 ± 7		D'ANDLAU	68	HBC	1.2 $\overline{p} p$, 5–6 body

[1] Using the $2\pi^+ 2\pi^-$ and $\pi^+ \pi^- \eta$ modes of $f_1(1285)$ decay. NODE=M008M;LINKAGE=LE
[2] The selected process is $J/\psi \to \omega a_0(980) \pi$. NODE=M008M;LINKAGE=BL
[3] Supersedes ABATZIS 94, ARMSTRONG 89E. NODE=M008M;LINKAGE=B
[4] From partial wave analysis of $K^+ \overline{K}^0 \pi^-$ system. NODE=M008M;LINKAGE=A
[5] No systematic error given. NODE=M008M;LINKAGE=N1
[6] From a unitarized quark-model calculation. NODE=M008M;LINKAGE=T
[7] From phase shift analysis of $\eta \pi^+ \pi^-$ system. NODE=M008M;LINKAGE=P
[8] Seen in the missing mass spectrum. NODE=M008M;LINKAGE=S

$f_1(1285)$ WIDTH

NODE=M008W

Only experiments giving width error less than 20 MeV are kept for averaging. NODE=M008W

NODE=M008W

	VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
	24.1± 1.0 OUR AVERAGE		Error includes scale factor of 1.3. See the ideogram below.			
YOUR DATA	18.3± 6.3	87	ABLIKIM	15P	BES3	$J/\psi \to K^+ K^- 3\pi$
	22.0± 3.1 $^{+2.0}_{-1.5}$		[1] ABLIKIM	11J	BES3	$J/\psi \to \omega(\eta \pi^+ \pi^-)$
	35 ± 6 ± 4		AUBERT	07AU	BABR	10.6 $e^+ e^- \to f_1(1285) \pi^+ \pi^- \gamma$
	40.0± 8.6± 9.3	203	BAI	04J	BES2	$J/\psi \to \gamma\gamma \pi^+ \pi^-$
	29 ±12	237	ABDALLAH	03H	DLPH	91.2 $e^+ e^- \to K^0_S K^\pm \pi^\mp + X$
	45 ± 9 ± 7	20k	ADAMS	01B	B852	18 GeV $\pi^- p \to K^+ K^- \pi^0 n$
	55 ±18	1400	ALDE	97B	GAM4	100 $\pi^- p \to \eta \pi^0 \pi^0 n$
	24 ± 3		BARBERIS	97B	OMEG	450 $pp \to pp 2(\pi^+ \pi^-)$
	20 ± 2		BARBERIS	97C	OMEG	450 $pp \to pp K^0_S K^\pm \pi^\mp$
	36 ± 5		[2] ANTINORI	95	OMEG	300,450 $pp \to pp 2(\pi^+ \pi^-)$
	29.0± 4.1		LEE	94	MPS2	18 $\pi^- p \to K^+ \overline{K}^0 2\pi^- p$
	25 ± 4	140	ARMSTRONG	89	OMEG	300 $pp \to K \overline{K} \pi pp$
	22 ± 2	4750	[3] BIRMAN	88	MPS	8 $\pi^- p \to K^+ \overline{K}^0 \pi^- n$
	25 ± 4	504	BITYUKOV	88	SPEC	32.5 $\pi^- p \to K^+ K^- \pi^0 n$
	19 ± 5		ANDO	86	SPEC	8 $\pi^- p \to \eta \pi^+ \pi^- n$
	32 ± 8	420	REEVES	86	SPEC	6.6 $p \overline{p} \to K K \pi X$
	22 ± 2		CHUNG	85	SPEC	8 $\pi^- p \to N K \overline{K} \pi$
	32 ± 3	604	ARMSTRONG	84	OMEG	85 $\pi^+ p \to K \overline{K} \pi \pi p$, $pp \to K \overline{K} \pi pp$
	24 ± 3		CHAUVAT	84	SPEC	ISR 31.5 pp
	29 ±10	103	DIONISI	80	HBC	4 $\pi^- p \to K \overline{K} \pi n$
	28.3± 6.7	320	NACASCH	78	HBC	0.7,0.76 $\overline{p} p \to K \overline{K} 3\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
	32.4± 5.8		[4] AAIJ	14Y	LHCB	$\overline{B}^0_{(s)} \to J/\psi 2(\pi^+ \pi^-)$
	18.2± 1.2		[4] SOSA	99	SPEC	$pp \to p_{slow} (K^0_S K^+ \pi^-) p_{fast}$
	19.4± 1.5		[4] SOSA	99	SPEC	$pp \to p_{slow} (K^0_S K^- \pi^+) p_{fast}$
	40 ± 5		ABATZIS	94	OMEG	450 $pp \to pp 2(\pi^+ \pi^-)$
	31 ± 5		ARMSTRONG	89E	OMEG	300 $pp \to pp 2(\pi^+ \pi^-)$
	41 ±12		ARMSTRONG	89G	OMEG	85 $\pi^+ p \to 4\pi \pi p$, $pp \to 4\pi pp$
	17.9±10.9	60	RATH	89	MPS	21.4 $\pi^- p \to K^0_S K^0_S \pi^0 n$
	14 $^{+20}_{-14}$ ±10	16	BECKER	87	MRK3	$e^+ e^- \to \phi K \overline{K} \pi$
	26 ±12		EVANGELIS...	81	OMEG	12 $\pi^- p \to \eta \pi^+ \pi^- \pi^- p$

OCCUR=2

OCCUR=2

25	±15	200	GURTU	79	HBC	4.2 $K^- p \rightarrow n\eta 2\pi$
∼ 10			[5] STANTON	79	CNTR	8.5 $\pi^- p \rightarrow n 2\gamma 2\pi$
24	±18	210	GRASSLER	77	HBC	16 $\pi^{\mp} p$
28	± 5	150	[6] DEFOIX	72	HBC	0.7 $\overline{p} p \rightarrow 7\pi$
46	± 9	180	[6] DUBOC	72	HBC	1.2 $\overline{p} p \rightarrow 2K 4\pi$
37	± 5	500	[7] THUN	72	MMS	13.4 $\pi^- p$
10	±10		BOESEBECK	71	HBC	16.0 $\pi p \rightarrow p 5\pi$
30	±15		CAMPBELL	69	DBC	2.7 $\pi^+ d$
60	±15		[6] LORSTAD	69	HBC	0.7 $\overline{p} p$, 4,5-body
35	±10		[6] DAHL	67	HBC	1.6–4.2 $\pi^- p$

[1] The selected process is $J/\psi \rightarrow \omega a_0(980)\pi$. NODE=M008W;LINKAGE=BL
[2] Supersedes ABATZIS 94, ARMSTRONG 89E. NODE=M008W;LINKAGE=B
[3] From partial wave analysis of $K^+ \overline{K}^0 \pi^-$ system. NODE=M008W;LINKAGE=A
[4] No systematic error given. NODE=M008W;LINKAGE=N1
[5] From phase shift analysis of $\eta \pi^+ \pi^-$ system. NODE=M008W;LINKAGE=P
[6] Resolution is not unfolded. NODE=M008W;LINKAGE=R
[7] Seen in the missing mass spectrum. NODE=M008W;LINKAGE=S

$f_1(1285)$ REFERENCES

NODE=M008

YOUR PAPER	ABLIKIM	15P	PR D92 012007	M. Ablikim *et al.*	(BES III Collab.)	REFID=56781
	AAIJ	14Y	PRL 112 091802	R. Aaij *et al.*	(LHCb Collab.)	REFID=55837
	LEES	12X	PR D86 092010	J.P. Lees *et al.*	(BABAR Collab.)	REFID=54714
	ABLIKIM	11J	PRL 107 182001	M. Ablikim *et al.*	(BES III Collab.)	REFID=53931
	AUBERT	07AU	PR D76 092005	B. Aubert *et al.*	(BABAR Collab.)	REFID=52049
	BAI	04J	PL B594 47	J.Z. Bai *et al.*	(BES Collab.)	REFID=50167
	ABDALLAH	03H	PL B569 129	J. Abdallah *et al.*	(DELPHI Collab.)	REFID=49548
	ACCIARRI	01G	PL B501 1	M. Acciarri *et al.*	(L3 Collab.)	REFID=48319
	ADAMS	01B	PL B516 264	G.S. Adams *et al.*	(BNL E852 Collab.)	REFID=49649
	SOSA	99	PRL 83 913	M. Sosa *et al.*		REFID=46937
	ALDE	97B	PAN 60 386	D. Alde *et al.*	(GAMS Collab.)	REFID=45396
			Translated from YAF 60 458.			
	BARBERIS	97B	PL B413 217	D. Barberis *et al.*	(WA 102 Collab.)	REFID=45758
	BARBERIS	97C	PL B413 225	D. Barberis *et al.*	(WA 102 Collab.)	REFID=45759
	AMELIN	95	ZPHY C66 71	D.V. Amelin *et al.*	(VES Collab.)	REFID=44376
	ANTINORI	95	PL B353 589	F. Antinori *et al.*	(ATHU, BARI, BIRM+)	REFID=44437
	ABATZIS	94	PL B324 509	S. Abatzis *et al.*	(ATHU, BARI, BIRM+)	REFID=44090
	LEE	94	PL B323 227	J.H. Lee *et al.*	(BNL, IND, KYUN, MASD+)	REFID=44092
	ARMSTRONG	93C	PL B307 394	T.A. Armstrong *et al.*	(FNAL, FERR, GENO+)	REFID=43587
	ARMSTRONG	92C	ZPHY C54 371	T.A. Armstrong *et al.*	(ATHU, BARI, BIRM+)	REFID=42097
	FUKUI	91C	PL B267 293	S. Fukui *et al.*	(SUGI, NAGO, KEK, KYOT+)	REFID=41748
	ARMSTRONG	89	PL B221 216	T.A. Armstrong *et al.*	(CERN, CDEF, BIRM+) JPC	REFID=40729
	ARMSTRONG	89E	PL B228 536	T.A. Armstrong, M. Benayoun	(ATHU, BARI, BIRM+)	REFID=41011
	ARMSTRONG	89G	ZPHY C43 55	T.A. Armstrong *et al.*	(CERN, BIRM, BARI+)	REFID=40930
	RATH	89	PR D40 693	M.G. Rath *et al.*	(NDAM, BRAN, BNL, CUNY+)	REFID=40924
	BIRMAN	88	PRL 61 1557	A. Birman *et al.*	(BNL, FSU, IND, MASD) JP	REFID=40568
	BITYUKOV	88	PL B203 327	S.I. Bityukov *et al.*	(SERP)	REFID=40569
	BECKER	87	PRL 59 186	J.J. Becker *et al.*	(Mark III Collab.)	REFID=40015
	GIDAL	87	PRL 59 2012	G. Gidal *et al.*	(LBL, SLAC, HARV)	REFID=40223
	ANDO	86	PRL 57 1296	A. Ando *et al.*	(KEK, KYOT, NIRS, SAGA+) IJP	REFID=20891
	REEVES	86	PR D34 1960	D.F. Reeves *et al.*	(FLOR, BNL, IND+) JP	REFID=20936
	CHUNG	85	PRL 55 779	S.U. Chung *et al.*	(BNL, FLOR, IND+) JP	REFID=20934
	ARMSTRONG	84	PL 146B 273	T.A. Armstrong *et al.*	(ATHU, BARI, BIRM+) JP	REFID=20929
	BITYUKOV	84B	PL 144B 133	S.I. Bityukov *et al.*	(SERP)	REFID=20468
	CHAUVAT	84	PL 148B 382	P. Chauvat *et al.*	(CERN, CLER, UCLA+)	REFID=20932
	TORNQVIST	82B	NP B203 268	N.A. Tornqvist	(HELS)	REFID=20573
	EVANGELIS...	81	NP B178 197	C. Evangelista *et al.*	(BARI, BONN, CERN+)	REFID=20462
	BROMBERG	80	PR D22 1513	C.M. Bromberg *et al.*	(CIT, FNAL, ILLC+)	REFID=20922
	DIONISI	80	NP B169 1	C. Dionisi *et al.*	(CERN, MADR, CDEF+)	REFID=20924
	GURTU	79	NP B151 181	A. Gurtu *et al.*	(CERN, ZEEM, NIJM, OXF)	REFID=20456
	STANTON	79	PRL 42 346	N.R. Stanton *et al.*	(OSU, CARL, MCGI+) JP	REFID=20887
	CORDEN	78	NP B144 253	M.J. Corden *et al.*	(BIRM, RHEL, TELA+) JP	REFID=20452
	NACASCH	78	NP B135 203	R. Nacasch *et al.*	(PARIS, MADR, CERN)	REFID=20919
	GRASSLER	77	NP B121 189	H. Grassler *et al.*	(AACH3, BERL, BONN+)	REFID=20447
	DEFOIX	72	NP B44 125	C. Defoix *et al.*	(CDEF, CERN)	REFID=20435
	DUBOC	72	NP B46 429	J. Duboc *et al.*	(PARIS, LIVP)	REFID=20339
	THUN	72	PRL 28 1733	R. Thun *et al.*	(STON, NEAS)	REFID=20911
	BARDADIN-...	71	PR D4 2711	M. Bardadin-Otwinowska *et al.*	(WARS)	REFID=20196
	BOESEBECK	71	PL 34B 659	K. Boesebeck	(AACH, BERL, BONN, CERN, CRAC+)	REFID=20905
	CAMPBELL	69	PRL 22 1204	J.H. Campbell *et al.*	(PURD)	REFID=20419
	LORSTAD	69	NP B14 63	B. Lorstad *et al.*	(CDEF, CERN) JP	REFID=20901
	D'ANDLAU	68	NP B5 693	C. d'Andlau *et al.*	(CDEF, CERN, IRAD+) IJP	REFID=20897
	DAHL	67	PR 163 1377	O.I. Dahl *et al.*	(LRL) IJP	REFID=20321

$c\overline{c}$ MESONS

NODE=MXXX025

NODE=M070

$J/\psi(1S)$

$I^G(J^{PC}) = 0^-(1^{--})$

$J/\psi(1S)$ BRANCHING RATIOS

NODE=M070230

HADRONIC DECAYS

NODE=M070305

$\Gamma(\phi\pi^0 f_0(980) \to \phi\pi^0\pi^+\pi^-)/\Gamma_{total}$ **Γ_{59}/Γ**

NODE=M070S97
NODE=M070S97

	VALUE (units 10^{-6})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**4.50±0.80±0.61**	355	ABLIKIM	15P	BES3	$J/\psi \to K^+K^-3\pi$

$\Gamma(\phi\pi^0 f_0(980) \to \phi\pi^0 p^0\pi^0)/\Gamma_{total}$ **Γ_{60}/Γ**

NODE=M070S98
NODE=M070S98

	VALUE (units 10^{-6})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**1.67±0.50±0.24**	70	ABLIKIM	15P	BESE	$J/\psi \to K^+K^-3\pi$

$\Gamma(\phi f_1(1285) \to \phi\pi^0 f_0(980) \to \phi\pi^0\pi^+\pi^-)/\Gamma_{total}$ **Γ_{66}/Γ**

NODE=M070S99
NODE=M070S99

	VALUE (units 10^{-7})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**9.36±2.31±1.54**	78	ABLIKIM	15P	BES3	$J/\psi \to K^+K^-3\pi$

$\Gamma(\phi f_1(1285) \to \phi\pi^0 f_0(980) \to \phi\pi^0\pi^0\pi^0)/\Gamma_{total}$ **Γ_{67}/Γ**

NODE=M070S00
NODE=M070S00

	VALUE (units 10^{-7})	EVTS	DOCUMENT ID		TECN	COMMENT
YOUR DATA	**2.08±1.63±1.47**	9	ABLIKIM	15P	BES3	$J/\psi \to K^+K^-3\pi$

$J/\psi(1S)$ REFERENCES

NODE=M070

YOUR PAPER ABLIKIM 15P PR D92 012007 M. Ablikim *et al.* (BES III Collab.)

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