$\Gamma(2\pi^+2\pi^-)/\Gamma(\pi\pi)$ Γ_4/Γ_1

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.033±0.005 OUR FIT Error includes scale factor of 1.2.					
0.033±0.004 OUR AVERAGE Error includes scale factor of 1.1.					
0.024±0.006	160	EMMS	75D	DBC	$4\ \pi^+ n \to\ p f_2$
0.051±0.025	70	EISENBERG	74	HBC	$4.9\ \pi^+ p \to\ \Delta^{++} f_2$
$0.043^{+0.007}_{-0.011}$	285	LOUIE	74	HBC	$3.9\ \pi^- p \to\ n f_2$
0.037±0.007	154	ANDERSON	73	DBC	$6\ \pi^+ n \to\ p f_2$
0.047±0.013		OH	70	HBC	$1.26\ \pi^- p \to\ \pi^+\pi^- n$

$\Gamma(\eta\eta)/\Gamma_{total}$ Γ_5/Γ

VALUE (units 10^{-3})	DOCUMENT ID		TECN	COMMENT
4.5±1.0 OUR FIT Error includes scale factor of 2.4.				
3.1±0.8 OUR AVERAGE Error includes scale factor of 1.3.				
2.8±0.7	ALDE	86D	GAM4	$100\ \pi^- p \to\ 2\eta n$
5.2±1.7	BINON	83	GAM2	$38\ \pi^- p \to\ 2\eta n$

$\Gamma(\eta\eta)/\Gamma(\pi\pi)$ Γ_5/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.05	95	EDWARDS	82F	CBAL	$e^+e^- \to\ e^+e^- 2\eta$
<0.016	95	EMMS	75D	DBC	$4\ \pi^+ n \to\ p f_2$
<0.09	95	EISENBERG	74	HBC	$4.9\ \pi^+ p \to\ \Delta^{++} f_2$

$\Gamma(4\pi^0)/\Gamma_{total}$ Γ_6/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0030±0.0010 OUR FIT					
0.003 ±0.001	400±50	ALDE	87	GAM4	$100\ \pi^- p \to\ 4\pi^0 n$

$\Gamma(\eta\pi\pi)/\Gamma(\pi\pi)$ Γ_8/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.010	95	EMMS	75D	DBC	$4\ \pi^+ n \to\ p f_2$

$\Gamma(K^0 K^- \pi^+ + c.c.)/\Gamma(\pi\pi)$ Γ_9/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.004	95	EMMS	75D	DBC	$4\ \pi^+ n \to\ p f_2$

$f_2(1270)$ REFERENCES

BEHREND 92 ZPHY C56 381 (CELLO Collab.)
BLINOV 92 ZPHY C53 33 +Bondar, Bukin+ (NOVO)
ADAMO 91 Hadron 91 Conf. +Agnello, Balestra+ (OBELIX Collab.)
AGUILAR-... 91 ZPHY C50 405 Aguilar-Benitez, Allison, Batalor+ (LEBC-EHS Collab.)
AKER 91 PL B260 249 +Amsler, Peters+ (Crystal Barrel Collab.)
ADACHI 90D PL B234 185 +Doser+ (TOPAZ Collab.)
ALBRECHT 90G ZPHY C48 183 +Ehrlichmann, Harder+ (ARGUS Collab.)
BOYER 90 PR D42 1350 +Butler+ (Mark II Collab.)
BREAKSTONE 90 ZPHY C48 569 + (ISU, BGNA, CERN, DORT, HEIDH, WARS)
MARSISKE 90 PR D41 3324 +Antreasyan+ (Crystal Ball Collab.)
MORGAN 90 ZPHY C48 623 +Pennington (RAL, DURH)
OEST 90 ZHPY C47 343 +Olsson+ (JADE Collab.)
AUGUSTIN 89 NP B320 1 +Cosme (DM2 Collab.)
VOROBYEV 88 SJNP 48 273 +Golubev, Dolinsky, Druzhinin+ (NOVO)
Translated from YAF 48 436.
ALDE 87 PL B198 286 +Binon, Bricman+ (LANL, BRUX, SERP, LAPP)
AUGUSTIN 87 ZPHY C36 369 +Cosme+ (LALO, CLER, FRAS, PADO)
ABACHI 86B PRL 57 1990 +Derrick, Blockus+ (PURD, ANL, IND, MICH, LBL)
AIHARA 86B PRL 57 404 +Alston-Garnjost+ (TPC-2γ Collab.)
ALDE 86D NP B269 485 +Binon, Bricman+ (BELG, LAPP, SERP, CERN)
LANDRO 86 PL B172 445 +Mork, Olsen (UTRO)
LONGACRE 86 PL B177 223 +Etkin+ (BNL, BRAN, CUNY, DUKE, NDAM)
LYTH 85 JPG 11 459
BEHREND 84B ZPHY C23 223 +Fenner, Schachter, Schroeder+ (CELLO Collab.)
BERGER 84 ZPHY C26 199 +Klovning, Burger+ (PLUTO Collab.)
COURAU 84 PL 147B 227 +Johnson, Sherman, Atwood, Baillon+ (CIT, SLAC)
SMITH 84C PR D30 851 +Burke, Abrams, Blocker, Levi+ (SLAC, LBL, HARV)
BINON 83 NC 78A 313 +Donskov, Duteil+ (BELG, LAPP, SERP, CERN)
Also 83B SJNP 38 561 Binon, Gouanere+ (BELG, LAPP, SERP, CERN)
Translated from YAF 38 934.
CHABAUD 83 NP B223 1 +Gorlich, Cerrada+ (CERN, CRAC, MPIM)
DENNEY 83 PR D28 2726 +Cranley, Firestone, Chapman+ (IOWA, MICH)
FRAZER 83 Aachen Conf. (UCSD)
MENNESSIER 83 ZPHY C16 241 (MONP)
APEL 82 NP B201 197 +Augenstein+(KARLK, KARLE, PISA, SERP, WIEN, CERN)
CASON 82 PRL 48 1316 +Biswas, Baumbaugh, Bishop+ (NDAM, ANL)
EDWARDS 82F PL 110B 82 +Partridge, Peck+ (CIT, HARV, PRIN, STAN, SLAC)
ETKIN 82B PR D25 1786 +Foley, Lai+ (BNL, CUNY, TUFTS, VAND)
BRANDELIK 81B ZPHY C10 117 +Boerner+ (TASSO Collab.)
CHABAUD 81 APP B12 575 +Niczyporuk, Becker+ (CERN, CRAC, MPIM)
GIDAL 81 PL 107B 153 +Goldhaber, Guy, Millikan, Abrams+ (SLAC, LBL)
ROUSSARIE 81 PL 105B 304 +Burke, Abrams, Alam+ (SLAC, LBL)
BERGER 80B PL 94B 254 +Genzer+ (PLUTO Collab.)
COSTA... 80 NP B175 402 Costa De Beauregard+ (BARI, BONN, CERN+)
LOVERRE 80 ZPHY C6 187 +Armenteros, Dionisi+ (CERN, CDEF, MADR, STOH)
CORDEN 79 NP B157 250 +Dowell, Garvey+ (BIRM, RHEL, TELA, LOWC)
MARTIN 79 NP B158 520 +Ozmutlu (DURH)
POLYCHRO... 79 PR D19 1317 Polychronakos, Cason, Bishop+ (NDAM, ANL)
PDG 78 PL 75B Bricman+
ANTIPOV 77 NP B119 45 +Busnello, Damgaard, Kienzle+ (SERP, GEVA)
PAWLICKI 77 PR D15 3196 +Ayres, Cohen, Diebold, Kramer, Wicklund (ANL)
DEUTSCH... 76 NP B103 426 Deutschmann+ (AACH3, BERL, BONN, CERN+)
APEL 75 PL 57B 398 +Augenstein+(KARLK, KARLE, PISA, SERP, WIEN, CERN)
EMMS 75D NP B96 155 +Kinson, Stacey, Votruba+ (BIRM, DURH, RHEL)
EISENBERG 74 PL 52B 239 +Engler, Haber, Karshon+ (REHO)
ENGLER 74 PR D10 2070 +Kraemer, Toaff, Weisser, Diaz+ (CMU, CASE)
LOUIE 74 PL 48B 385 +Alitti, Gandois, Chaloupka+ (SACL, CERN)
ANDERSON 73 PRL 31 562 +Engler, Kraemer, Toaff, Diaz+ (CMU, CASE)
TAKAHASHI 72 PR D6 1266 +Barish+ (TOHOK, PENN, NDAM, ANL)
BEAUPRE 71 NP B28 77 +Deutschmann, Graessler+ (AACH, BERL, CERN)
FLATTE 71 PL 34B 551 +Alston-Garnjost, Barbaro-Galtieri+ (LBL)
ARMENISE 70 LNC 4 199 +Ghidini, Foring, Cartacci+ (BARI, BGNA, FIRZ)
OH 70 PR D1 2494 +Garfinkel, Morse, Walker, Prentice (WISC, TNTO) JP
STUNTEBECK 70 PL 32B 391 +Kenney, Deery, Biswas, Cason+ (NDAM)
ADERHOLZ 69 NP B11 259 +Bartsch+ (AACH3, BERL, CERN, JAGL, WARS)
ARMENISE 68 NC 54A 999 +Ghidini, Forino+ (BARI, BGNA, FIRZ, ORSAY)
ASCOLI 68D PRL 21 1712 +Crawley, Mortara+ (ILL)
BOESEBECK 68 NP B4 501 +Deutschmann+ (AACH, BERL, CERN)
JOHNSON 68 PR 176 1651 +Poirier, Biswas, Gutay+ (NDAM, PURD, SLAC)
EISNER 67 PR 164 1699 +Johnson, Klein, Peters, Sahni, Yen+ (PURD)
RABIN 67 Thesis (RUTG)
DERADO 65 PRL 14 872 +Kenney, Poirier, Shephard (NDAM)
LEE 64 PRL 12 342 +Roe, Sinclair, VanderVelde (MICH)
BONDAR 63 PL 5 153 + (AACH, BIRM, BONN, DESY, LOIC, MPIM)

$f_1(1285)$

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

See also minireview under non-$q\overline{q}$ candidates.

$f_1(1285)$ MASS

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	CHG	COMMENT
1282 ± 5 OUR ESTIMATE						
1282.1± 0.6 OUR AVERAGE Error includes scale factor of 1.6. See the ideogram below.						
1282 ± 4		ARMSTRONG	93C	SPEC		$\overline{p}p \to\ \pi^0\eta\eta \to\ 6\gamma$
1270 ± 6 ±10		ARMSTRONG	92C	OMEG		$300\ pp \to\ pp\pi^+\pi^-\gamma$
1279 ± 5		FUKUI	91C	SPEC		$8.95\ \pi^- p \to\ \eta\pi^+\pi^- n$
1278 ± 2	140±12	ARMSTRONG	89	OMEG		$300\ pp \to\ K\overline{K}\pi pp$
1281 ± 1		ARMSTRONG	89E	OMEG		$300\ pp \to\ pp2(\pi^+\pi^-)$
1278 ± 2		ARMSTRONG	89G	OMEG		$85\ \pi^+ p \to\ 4\pi\pi p$, $pp \to\ 4\pi pp$
1280.1± 2.1	60 ± 20	RATH	89	MPS		$21.4\ \pi^- p \to\ K^0_S K^0_S \pi^0 n$
1285 ± 1	4750±100	[1] BIRMAN	88	MPS		$8\ \pi^- p \to\ K^+\overline{K}^0\pi^- n$
1280 ± 1	504±84	BITYUKOV	88	SPEC		$32.5\ \pi^- p \to\ K^+K^-\pi^0 n$
1279 ± 6 ±10	16 ± 6	BECKER	87	MRK3		$e^+e^- \to\ \phi K\overline{K}\pi$
1286 ± 9		GIDAL	87	MRK2		$e^+e^- \to\ e^+e^-\eta\pi^+\pi^-$
1280 ± 4		ANDO	86	SPEC		$8\ \pi^- p \to\ n\eta\pi^+\pi^-$
1277.0± 2.0	420	REEVES	86	SPEC		$6.6\ p\overline{p} \to\ K\overline{K}\pi X$
1285.0± 2.0		CHUNG	85	SPEC		$8\ \pi^- p \to\ NK\overline{K}\pi$
1279.0± 2.0	604	ARMSTRONG	84	OMEG		$85\ \pi^+ p \to\ K\overline{K}\pi\pi p$, $pp \to\ K\overline{K}\pi pp$
1287.0± 5.0	353	BITUKOV	84	SPEC		$32\ \pi^- p \to\ K^+K^-\pi^0 n$
1286.0± 1.0		CHAUVAT	84	SPEC		ISR 31.5 pp
1278 ± 4		EVANGELISTA	81	OMEG		$12\ \pi^- p \to\ \eta\pi^+\pi^-\pi^- p$
1275.0± 6.0	31	BROMBERG	80	SPEC		$100\ \pi^- p \to\ K\overline{K}\pi X$
1283.0± 3.0	103	DIONISI	80	HBC		$4\ \pi^- p \to\ K\overline{K}\pi n$
1288.0± 9.0	200	GURTU	79	HBC		$4.2\ K^- p \to\ n\eta 2\pi$
1295.0±12.0	85	CORDEN	78	OMEG		12–15 $\pi^- p \to\ n5\pi$
1282.0± 2.0	320	NACASCH	78	HBC		0.7,0.76 $\overline{p}p \to\ K\overline{K}3\pi$
1279.0± 5.0	210	GRASSLER	77	HBC		$16\ \pi^{\mp} p$
1292 ±10	150	DEFOIX	72	HBC		$0.7\ \overline{p}p \to\ 7\pi$
1286 ± 3	180	DUBOC	72	HBC		$1.2\ \overline{p}p \to\ 2K4\pi$
1303.0± 8.0		BARDADIN-...	71	HBC		$8\ \pi^+ p \to\ p6\pi$
1283.0± 6.0		BOESEBECK	71	HBC		$16.0\ \pi p \to\ p5\pi$
1270.0±10.0		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
1283.0± 5.0		DAHL	67	HBC		1.6–4.2 $\pi^- p$