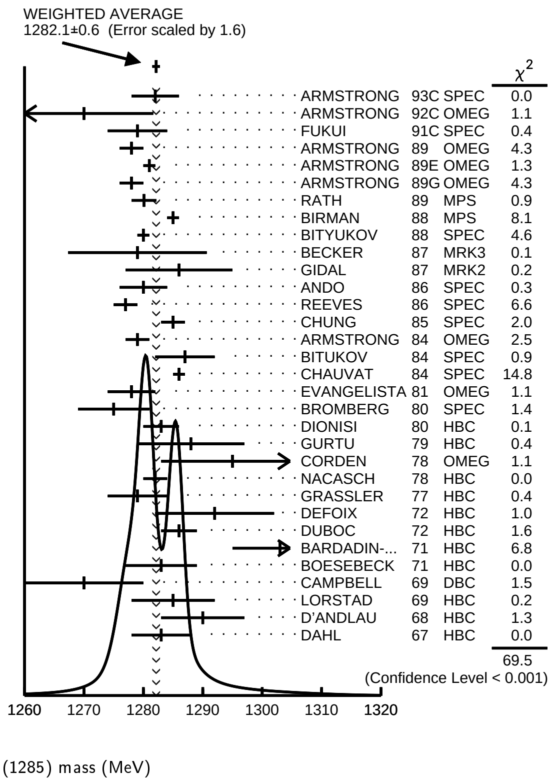
• • • We do not use the following data for averages, fits, limits, etc. • • •

VALUE	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
1264 ± 8		AUGUSTIN 90	DM2		$J/\psi \to \gamma\eta\pi^+\pi^-$
1284 ± 4		TAKAMATSU 90	SPEC	0	$8\ \pi^- p \to K\overline{K}\pi n$
~ 1279		[2] TORNQVIST 82B	RVUE		
~ 1275.0	46	[3] STANTON 79	CNTR		$8.5\ \pi^- p \to n2\gamma 2\pi$
1271.0±10.0	34	CORDEN 78	OMEG		$12–15\ \pi^- p \to K^+ K^- \pi n$
1280 ± 3	500	[4] THUN 72	MMS		$13.4\ \pi^- p$

[1] From partial wave analysis of $K^+\overline{K}^0\pi^-$ system.
[2] From a unitarized quark-model calculation.
[3] From phase shift analysis of $\eta\pi^+\pi^-$ system.
[4] Seen in the missing mass spectrum.



$f_1(1285)$ WIDTH

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

VALUE (MeV)	CL%	EVTS	DOCUMENT ID	TECN	CHG	COMMENT
24 ± 3 OUR ESTIMATE						
24.3± 1.1 OUR AVERAGE			Error includes scale factor of 1.1.			
25 ± 4		140±12	ARMSTRONG 89	OMEG		$300\ pp \to K\overline{K}\pi pp$
31 ± 5			ARMSTRONG 89E	OMEG		$300\ pp \to pp2(\pi^+\pi^-)$
41 ±12			ARMSTRONG 89G	OMEG		$85\ \pi^+ p \to 4\pi\pi p,\ pp \to 4\pi pp$
17.9±10.9		60 ± 20	RATH 89	MPS		$21.4\ \pi^- p \to K^0_S K^0_S \pi^0 n$
22 ± 2		4750± 100	[5] BIRMAN 88	MPS		$8\ \pi^- p \to K^+\overline{K}^0\pi^- n$
25 ± 4		504± 84	BITYUKOV 88	SPEC		$32.5\ \pi^- p \to K^+K^-\pi^0 n$
$14\ ^{+20}_{-14}$ ±10		16 ± 6	BECKER 87	MRK3		$e^+e^- \to \phi K\overline{K}\pi$
19 ± 5			ANDO 86	SPEC		$8\ \pi^- p \to n\eta\pi^+\pi^-$
32.0± 8.0		420	REEVES 86	SPEC		$6.6\ p\overline{p} \to KK\pi X$
22.0± 2.0			CHUNG 85	SPEC		$8\ \pi^- p \to NK\overline{K}\pi$
32.0± 3.0		604	ARMSTRONG 84	OMEG		$85\ \pi^+ p \to K\overline{K}\pi\pi p,\ pp \to K\overline{K}\pi pp$
24.0± 3.0			CHAUVAT 84	SPEC		ISR 31.5 pp
26 ±12			EVANGELISTA 81	OMEG		$12\ \pi^- p \to \eta\pi^+\pi^-\pi^- p$
29.0±10.0		103	DIONISI 80	HBC		$4\ \pi^- p \to K\overline{K}\pi n$
25.0±15.0		200	GURTU 79	HBC		$4.2\ K^- p \to n\eta 2\pi$
28.3± 6.7		320	NACASCH 78	HBC		$0.7,0.76\ \overline{p}p \to K\overline{K}3\pi$
24.0±18.0		210	GRASSLER 77	HBC		$16\ \pi^{\mp} p$
10.0±10.0			BOESEBECK 71	HBC		$16.0\ \pi p \to p5\pi$
30.0±15.0			CAMPBELL 69	DBC		$2.7\ \pi^+ d$
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44 ±20			AUGUSTIN 90	DM2		$J/\psi \to \gamma\eta\pi^+\pi^-$
22 ± 5			TAKAMATSU 90	SPEC	0	$8\ \pi^- p \to K\overline{K}\pi n$
<20	90		TAKAMATSU 90	SPEC	0	$8.95\ \pi^- p \to \eta\pi^+\pi^- n$
~ 10.0			[6] STANTON 79	CNTR		$8.5\ \pi^- p \to n2\gamma 2\pi$
28 ± 5		150	[7] DEFOIX 72	HBC		$0.7\ \overline{p}p \to 7\pi$
46 ± 9		180	[7] DUBOC 72	HBC		$1.2\ \overline{p}p \to 2K4\pi$
37 ± 5		500	[8] THUN 72	MMS		$13.4\ \pi^- p$
60 ±15			[7] LORSTAD 69	HBC		$0.7\ \overline{p}p$, 4,5-body
35.0±10.0			[7] DAHL 67	HBC		$1.6–4.2\ \pi^- p$

[5] From partial wave analysis of $K^+\overline{K}^0\pi^-$ system.
[6] From phase shift analysis of $\eta\pi^+\pi^-$ system.
[7] Resolution is not unfolded.
[8] Seen in the missing mass spectrum.

$f_1(1285)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level
Γ_1	4π	(29 ± 6) %	
Γ_2	$\pi^0\pi^0\pi^+\pi^-$	$(15\ ^{+\ 9}_{-\ 8})$ %	S=1.1
Γ_3	$2\pi^+ 2\pi^-$	(15 ± 6) %	
Γ_4	$\rho^0\pi^+\pi^-$	dominates $2\pi^+\ 2\pi^-$	
Γ_5	$4\pi^0$	$< 7 \times 10^{-4}$	CL=90%
Γ_6	$\eta\pi\pi$	(54 ±15) %	
Γ_7	$a_0(980)\pi$ [ignoring $a_0(980) \to K\overline{K}$]	(44 ± 7) %	S=1.1
Γ_8	$\eta\pi\pi$ [excluding $a_0(980)\pi$]	$(10\ ^{+\ 7}_{-\ 6})$ %	S=1.1
Γ_9	$K\overline{K}\pi$	(9.7± 1.6) %	S=1.2
Γ_{10}	$K\overline{K}^*(892)$	not seen	
Γ_{11}	$\gamma\rho^0$	(6.6± 1.3) %	S=1.5
Γ_{12}	$\phi\gamma$	$(8.0\pm 3.1) \times 10^{-4}$	
Γ_{13}	$\gamma\gamma^*$		
Γ_{14}	$\gamma\gamma$		

CONSTRAINED FIT INFORMATION

An overall fit to 7 branching ratios uses 13 measurements and one constraint to determine 6 parameters. The overall fit has a $\chi^2 =$ 11.4 for 8 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\left\langle\delta x_i \delta x_j\right\rangle/(\delta x_i{\cdot}\delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i/\Gamma_{total}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_3	−87				
x_7	−33	13			
x_8	−4	−5	−78		
x_9	46	−19	−38	−12	
x_{11}	−59	45	30	−11	−41
	x_2	x_3	x_7	x_8	x_9