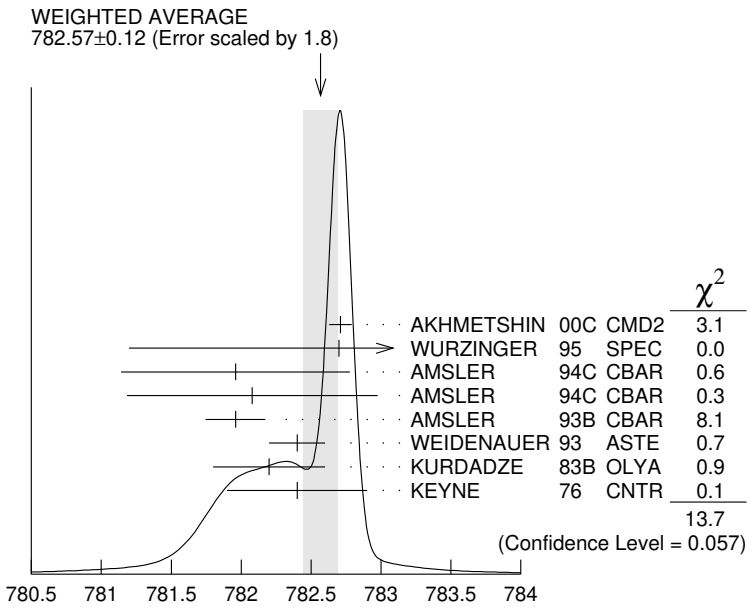
$\omega(782)$

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

$\omega(782)$ MASS

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
782.57±0.12 OUR AVERAGE		Error includes scale factor of 1.8. See the ideogram below.			
782.71±0.07±0.04	11200	AKHMETSHIN	00C	CMD2	$e^+e^- \to \pi^+\pi^-\pi^0$
782.7 ±0.1 ±1.5	19500	WURZINGER	95	SPEC	1.33 $pd \to {}^3\mathrm{He}\,\omega$
781.96±0.17±0.80	11k	AMSLER	94C	CBAR	0.0 $\overline{p}p \to \omega\pi^0\pi^0$
782.08±0.36±0.82	3463	AMSLER	94C	CBAR	0.0 $\overline{p}p \to \omega\eta\pi^0$
781.96±0.13±0.17	15k	AMSLER	93B	CBAR	0.0 $\overline{p}p \to \omega\pi^0\pi^0$
782.4 ±0.2	270k	WEIDENAUER	93	ASTE	$\overline{p}p \to 2\pi^+2\pi^-\pi^0$
782.2 ±0.4	1488	KURDADZE	83B	OLYA	$e^+e^- \to \pi^+\pi^-\pi^0$
782.4 ±0.5	7000	[1] KEYNE	76	CNTR	$\pi^- p \to \omega n$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
781.78±0.10		[2] BARKOV	87	CMD	$e^+e^- \to \pi^+\pi^-\pi^0$
783.3 ±0.4		CORDIER	80	WIRE	$e^+e^- \to \pi^+\pi^-\pi^0$
782.5 ±0.8	33260	ROOS	80	RVUE	0.0–3.6 $\overline{p}p$
782.6 ±0.8	3000	BENKHEIRI	79	OMEG	9–12 $\pi^\pm p$
781.8 ±0.6	1430	COOPER	78B	HBC	0.7–0.8 $\overline{p}p \to 5\pi$
782.7 ±0.9	535	VANAPEL...	78	HBC	7.2 $\overline{p}p \to \overline{p}p\omega$
783.5 ±0.8	2100	GESSAROLI	77	HBC	11 $\pi^- p \to \omega n$
782.5 ±0.8	418	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p$
783.4 ±1.0	248	BIZZARRI	71	HBC	0.0 $p\overline{p} \to K^+K^-\omega$
781.0 ±0.6	510	BIZZARRI	71	HBC	0.0 $p\overline{p} \to K_1K_1\omega$
783.7 ±1.0	3583	[3] COYNE	71	HBC	3.7 $\pi^+ p \to p\pi^+\pi^+\pi^-\pi^0$
784.1 ±1.2	750	ABRAMOVI...	70	HBC	3.9 $\pi^- p$
783.2 ±1.6		[4] BIGGS	70B	CNTR	$<4.1\ \gamma\mathrm{C} \to \pi^+\pi^-\mathrm{C}$
782.4 ±0.5	2400	BIZZARRI	69	HBC	0.0 $\overline{p}p$

[1] Observed by threshold-crossing technique. Mass resolution = 4.8 MeV FWHM.
[2] Systematic uncertainties underestimated. Superseded by AKHMETSHIN 00C.
[3] From best-resolution sample of COYNE 71.
[4] From ω-ρ interference in the $\pi^+\pi^-$ mass spectrum assuming ω width 12.6 MeV.



$\omega(782)$ mass (MeV)

$\omega(782)$ WIDTH

VALUE (MeV)	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
8.44±0.09 OUR AVERAGE					
8.68±0.23±0.10	11200	AKHMETSHIN	00C	CMD2	$e^+e^- \to \pi^+\pi^-\pi^0$
8.2 ±0.3	19500	WURZINGER	95	SPEC	1.33 $p\,d \to {}^3\mathrm{He}\,\omega$
8.4 ±0.1	[5]	AULCHENKO	87	ND	$e^+e^- \to \pi^+\pi^-\pi^0$
8.30±0.40		BARKOV	87	CMD	$e^+e^- \to \pi^+\pi^-\pi^0$
9.8 ±0.9	1488	KURDADZE	83B	OLYA	$e^+e^- \to \pi^+\pi^-\pi^0$
9.0 ±0.8		CORDIER	80	WIRE	$e^+e^- \to \pi^+\pi^-\pi^0$
9.1 ±0.8		BENAKSAS	72B	OSPK	e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •					
12 ±2	1430	COOPER	78B	HBC	0.7–0.8 $\overline{p}p \to 5\pi$
9.4 ±2.5	2100	GESSAROLI	77	HBC	11 $\pi^- p \to \omega n$
10.22±0.43	20000	[6] KEYNE	76	CNTR	$\pi^- p \to \omega n$
13.3 ±2	418	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p$
10.5 ±1.5		BORENSTEIN	72	HBC	2.18 $K^- p$
7.70±0.9 ±1.15	940	BROWN	72	MMS	2.5 $\pi^- p \to n\,\mathrm{MM}$
10.3 ±1.4	510	BIZZARRI	71	HBC	0.0 $p\overline{p} \to K_1 K_1 \omega$
12.8 ±3.0	248	BIZZARRI	71	HBC	0.0 $p\overline{p} \to K^+K^-\omega$
9.5 ±1.0	3583	COYNE	71	HBC	3.7 $\pi^+ p \to p\pi^+\pi^+\pi^-\pi^0$

[5] Relativistic Breit-Wigner includes radiative corrections.
[6] Observed by threshold-crossing technique. Mass resolution = 4.8 MeV FWHM.

$\omega(782)$ DECAY MODES

	Mode	Fraction (Γ_i/Γ)	Confidence level
Γ_1	$\pi^+\pi^-\pi^0$	(88.6 $\pm$0.7) %	
Γ_2	$\pi^0\gamma$	(8.66$\pm$0.35) %	
Γ_3	$\pi^+\pi^-$	(2.23$\pm$0.30) %	
Γ_4	neutrals (excluding $\pi^0\gamma$)	(4.8 $^{+7.7}_{-3.1}$) $\times 10^{-3}$	
Γ_5	$\eta\gamma$	(6.5 $\pm$1.0) $\times 10^{-4}$	
Γ_6	$\pi^0 e^+ e^-$	(5.9 $\pm$1.9) $\times 10^{-4}$	
Γ_7	$\pi^0\mu^+\mu^-$	(9.6 $\pm$2.3) $\times 10^{-5}$	
Γ_8	$e^+ e^-$	(6.97$\pm$0.13) $\times 10^{-5}$	
Γ_9	$\pi^+\pi^-\pi^0\pi^0$	$<$ 2 %	90%
Γ_{10}	$\pi^+\pi^-\gamma$	$<$ 3.6 $\times 10^{-3}$	95%
Γ_{11}	$\pi^+\pi^-\pi^+\pi^-$	$<$ 1 $\times 10^{-3}$	90%
Γ_{12}	$\pi^0\pi^0\gamma$	(7.8 $\pm$3.4) $\times 10^{-5}$	
Γ_{13}	$\mu^+\mu^-$	$<$ 1.8 $\times 10^{-4}$	90%
Γ_{14}	3γ	$<$ 1.9 $\times 10^{-4}$	95%

Charge conjugation (C) violating modes

Γ_{15}	$\eta\pi^0$	C	$<$ 1 $\times 10^{-3}$		90%
Γ_{16}	$3\pi^0$	C	$<$ 3 $\times 10^{-4}$		90%

CONSTRAINED FIT INFORMATION

An overall fit to 8 branching ratios uses 28 measurements and one constraint to determine 5 parameters. The overall fit has a $\chi^2 =$ 17.0 for 24 degrees of freedom.

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

x_2	19			
x_3	−38	−7		
x_4	−82	−59	−2	
x_8	−20	−4	8	17
	x_1	x_2	x_3	x_4

$\omega(782)$ PARTIAL WIDTHS

$\Gamma(e^+ e^-)$ Γ_8

VALUE (keV)	EVTS	DOCUMENT ID	TECN	COMMENT
0.60 $\pm$0.02 OUR EVALUATION				

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

$0.595 \pm 0.014 \pm 0.009$	11200	[7] AKHMETSHIN	00C	CMD2	$e^+ e^- \rightarrow \pi^+ \pi^- \pi^0$

[7] Using B($\omega \rightarrow \pi^+ \pi^- \pi^0$) = 0.888 ± 0.007.

$\omega(782)$ $\Gamma(i)\Gamma(e^+ e^-)/\Gamma^2(\text{total})$

$\Gamma(e^+ e^-) \times \Gamma(\pi^+ \pi^- \pi^0)/\Gamma^2_{\text{total}}$ $\Gamma_8\Gamma_1/\Gamma^2$

VALUE (units 10^{-5})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
6.18±0.12 OUR FIT					
6.08±0.14±0.08	11200	AKHMETSHIN	00C	CMD2	$e^+ e^- \rightarrow \pi^+ \pi^- \pi^0$

$\Gamma(e^+ e^-) \times \Gamma(\eta\gamma)/\Gamma^2_{\text{total}}$ $\Gamma_8\Gamma_5/\Gamma^2$

VALUE (units 10^{-8})	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
3.25±0.51±0.10	312	[8] ACHASOV	00D	SND	$e^+ e^- \rightarrow \eta\gamma$

[8] From the $\eta \rightarrow 3\pi^0$ decay and using B($\eta \rightarrow 3\pi^0$) = (32.2 ± 0.4) × 10^{-2}.

$\omega(782)$ BRANCHING RATIOS

$\Gamma(\text{neutrals})/\Gamma(\pi^+ \pi^- \pi^0)$ $(\Gamma_2+\Gamma_4)/\Gamma_1$

VALUE	*EVTS*	*DOCUMENT ID*		*TECN*	*COMMENT*
0.103±0.008 OUR FIT					
$0.103^{+0.011}_{-0.010}$ OUR AVERAGE					
0.15 ±0.04	46	AGUILAR-...	72B	HBC	3.9,4.6 $K^- p$
0.10 ±0.03	19	BARASH	67B	HBC	0.0 $\overline{p}p$
0.134±0.026	850	DIGIUGNO	66B	CNTR	1.4 $\pi^- p$
0.097±0.016	348	FLATTE	66	HBC	1.4 – 1.7 $K^- p \rightarrow \Lambda$MM
$0.06\ ^{+0.05}_{-0.02}$		JAMES	66	HBC	2.1 $\pi^+ p$
0.08 ±0.03	35	KRAEMER	64	DBC	1.2 $\pi^+ d$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.11 ±0.02	20	BUSCHBECK	63	HBC	1.5 $K^- p$

$\Gamma(\pi^+ \pi^-)/\Gamma(\pi^+ \pi^- \pi^0)$ Γ_3/Γ_1

See also $\Gamma(\pi^+ \pi^-)/\Gamma_{\text{total}}$.

VALUE	*DOCUMENT ID*		*TECN*	*COMMENT*
0.0252±0.0035 OUR FIT				
0.026 ±0.005 OUR AVERAGE				
$0.021\ ^{+0.028}_{-0.009}$	[9] RATCLIFF	72	ASPK	15 $\pi^- p \rightarrow n2\pi$
0.028 ±0.006	BEHREND	71	ASPK	Photoproduction
$0.022\ ^{+0.009}_{-0.01}$	[10] ROOS	70	RVUE	

[9] Significant interference effect observed. NB of $\omega \rightarrow 3\pi$ comes from an extrapolation.
[10] ROOS 70 combines ABRAMOVICH 70 and BIZZARRI 70.

$\Gamma(\pi^0\gamma)/\Gamma(\pi^+\pi^-\pi^0)$ Γ_2/Γ_1

VALUE	DOCUMENT ID		TECN	COMMENT
0.098 ±0.004 OUR FIT				
0.098 ±0.004 OUR AVERAGE				
0.0994±0.0036±0.0038	[11] AULCHENKO	00A	SND	$e^+e^- \to \pi^+\pi^-\pi^0\pi^0, \pi^0\pi^0\gamma$
0.099 ±0.007	DOLINSKY	89	ND	$e^+e^- \to \pi^0\gamma$
0.084 ±0.013	KEYNE	76	CNTR	$\pi^- p \to \omega n$
0.109 ±0.025	BENAKSAS	72C	OSPK	e^+e^-
0.081 ±0.020	BALDIN	71	HLBC	2.9 $\pi^+ p$
0.13 ±0.04	JACQUET	69B	HLBC	

[11] From $\sigma_0^{\omega\pi^0 \to \pi^0\pi^0\gamma}(m_\phi)/\sigma_0^{\omega\pi^0 \to \pi^+\pi^-\pi^0\pi^0}(m_\phi)$ with a phase-space correction factor of 1/1.023.

$\Gamma(\pi^+\pi^-\gamma)/\Gamma(\pi^+\pi^-\pi^0)$ Γ_{10}/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.066	90	KALBFLEISCH	75	HBC	2.18 $K^- p \to \Lambda\pi^+\pi^-\gamma$
<0.05	90	FLATTE	66	HBC	1.2 – 1.7 $K^- p \to \Lambda\pi^+\pi^-\gamma$

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

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0036	95	WEIDENAUER	90	ASTE	$p\overline{p} \to \pi^+\pi^-\pi^+\pi^-\gamma$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.004	95	BITYUKOV	88B	SPEC	32 $\pi^- p \to \pi^+\pi^-\gamma X$

$\Gamma(\pi^+\pi^-\pi^+\pi^-)/\Gamma_{total}$ Γ_{11}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1\times10^{-3}$	90	KURDADZE	88	OLYA	$e^+e^- \to \pi^+\pi^-\pi^+\pi^-$

$\Gamma(\pi^+\pi^-\pi^0\pi^0)/\Gamma_{total}$ Γ_9/Γ

VALUE (units 10^{-2})	CL%	DOCUMENT ID		TECN	COMMENT
<2	90	KURDADZE	86	OLYA	$e^+e^- \to \pi^+\pi^-\pi^0\pi^0$

$\Gamma(\mu^+\mu^-)/\Gamma(\pi^+\pi^-\pi^0)$ Γ_{13}/Γ_1

VALUE (units 10^{-3})	CL%	DOCUMENT ID		TECN	COMMENT
<0.2	90	WILSON	69	OSPK	12 π^- C → Fe
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.7	74	FLATTE	66	HBC	1.2 – 1.7 $K^- p \to \Lambda\mu^+\mu^-$
<1.2		BARBARO-...	65	HBC	2.7 $K^- p$

$\Gamma(\pi^0\pi^0\gamma)/\Gamma_{total}$ Γ_{12}/Γ

VALUE (units 10^{-5})	EVTS	DOCUMENT ID		TECN	COMMENT
7.8±2.7±2.0	63	[12] ACHASOV	00G	SND	$e^+e^- \to \pi^0\pi^0\gamma$

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

12.7±2.3±2.5	63	[13] ACHASOV	00G	SND	$e^+e^- \to \pi^0\pi^0\gamma$

[12] In the model assuming the $\rho \to \pi^0\pi^0\gamma$ decay via the $\omega\pi$ and $S\gamma$ mechanisms where S is a broad scalar state.
[13] In the model assuming the $\rho \to \pi^0\pi^0\gamma$ decay via the $\omega\pi$ mechanism only.

$\Gamma(\pi^0\pi^0\gamma)/\Gamma(\pi^0\gamma)$ Γ_{12}/Γ_2

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
0.00085±0.00029		40 ± 14	ALDE	94B	GAM2	$38\pi^- p \to \pi^0\pi^0\gamma n$

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

< 0.005	90	DOLINSKY	89	ND	$e^+e^- \to \pi^0\pi^0\gamma$
< 0.18	95	KEYNE	76	CNTR	$\pi^- p \to \omega n$
< 0.15	90	BENAKSAS	72C	OSPK	e^+e^-
< 0.14		BALDIN	71	HLBC	2.9 $\pi^+ p$
< 0.1	90	BARMIN	64	HLBC	1.3–2.8 $\pi^- p$

$\Gamma(\eta\pi^0)/\Gamma_{total}$ Γ_{15}/Γ

Violates C conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.001	90	ALDE	94B	GAM2	$38\pi^- p \to \eta\pi^0 n$

$[\Gamma(\eta\gamma)+\Gamma(\eta\pi^0)]/\Gamma(\pi^+\pi^-\pi^0)$ $(\Gamma_5+\Gamma_{15})/\Gamma_1$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.016	90	[14] FLATTE	66	HBC	1.2 – 1.7 $K^- p \to \Lambda\pi^+\pi^-$ MM

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

<0.045	95	JACQUET	69B	HLBC	

[14] Restated by us using B($\eta \to$ charged modes) = 29.2%.

$\Gamma(\text{neutrals})/\Gamma(\text{charged particles})$ $(\Gamma_2+\Gamma_4)/(\Gamma_1+\Gamma_3)$

VALUE	DOCUMENT ID		TECN	COMMENT
0.101±0.008 OUR FIT				
0.124±0.021	FELDMAN	67C	OSPK	1.2 $\pi^- p$

$\Gamma(\pi^0\pi^0\gamma)/\Gamma(\pi^+\pi^-\pi^0)$ Γ_{12}/Γ_1

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.00045	90	DOLINSKY	89	ND	$e^+e^- \to \pi^0\pi^0\gamma$

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

<0.08	95	JACQUET	69B	HLBC	

$\Gamma(\eta\gamma)/\Gamma(\pi^0\gamma)$ Γ_5/Γ_2

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.0098 ± 0.0024	[15] ALDE	93	GAM2	$38\pi^- p \to \omega n$
0.0082 ± 0.0033	[16] DOLINSKY	89	ND	$e^+e^- \to \eta\gamma$
0.010 ± 0.045	APEL	72B	OSPK	4–8 $\pi^- p \to n3\gamma$

[15] Model independent determination.
[16] Solution corresponding to constructive ω-ρ interference.

$\Gamma(\pi^0\mu^+\mu^-)/\Gamma_{total}$ Γ_7/Γ

VALUE (units 10^{-4})	DOCUMENT ID		TECN	COMMENT
0.96 ± 0.23	DZHELYADIN	81B	CNTR	25–33 $\pi^- p \to \omega n$

$\Gamma(\pi^0 e^+ e^-)/\Gamma_{total}$ Γ_6/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
5.9 ± 1.9	43	DOLINSKY	88	ND	$e^+e^- \to \pi^0 e^+ e^-$

$\Gamma(e^+e^-)/\Gamma_{total}$ Γ_8/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
0.697 ± 0.013 OUR FIT					
0.707 ± 0.019 OUR AVERAGE		Error includes scale factor of 1.1.			
0.714 ± 0.036		DOLINSKY	89	ND	$e^+e^- \to \pi^+\pi^-\pi^0$
0.72 ± 0.03		BARKOV	87	CMD	$e^+e^- \to \pi^+\pi^-\pi^0$
0.64 ± 0.04	1488	KURDADZE	83B	OLYA	$e^+e^- \to \pi^+\pi^-\pi^0$
0.675 ± 0.069		CORDIER	80	WIRE	$e^+e^- \to 3\pi$
0.83 ± 0.10		BENAKSAS	72B	OSPK	$e^+e^- \to 3\pi$
0.77 ± 0.06		[17] AUGUSTIN	69D	OSPK	$e^+e^- \to 2\pi$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.685 ± 0.016	11200	[18] AKHMETSHIN	00C	CMD2	$e^+e^- \to \pi^+\pi^-\pi^0$
0.65 ± 0.13	33	[19] ASTVACAT...	68	OSPK	Assume SU(3)+mixing

[17] Rescaled by us to correspond to ω width 8.4 MeV.
[18] Using B($\omega \to \pi^+\pi^-\pi^0$)=0.888 ± 0.007.
[19] Not resolved from ρ decay. Error statistical only.

$\Gamma(\text{neutrals})/\Gamma_{total}$ $(\Gamma_2+\Gamma_4)/\Gamma$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.091 ± 0.006 OUR FIT					
0.081 ± 0.011 OUR AVERAGE					
0.075 ± 0.025		BIZZARRI	71	HBC	0.0 $p\overline{p}$
0.079 ± 0.019		DEINET	69B	OSPK	1.5 $\pi^- p$
0.084 ± 0.015		BOLLINI	68C	CNTR	2.1 $\pi^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.073 ± 0.018	42	BASILE	72B	CNTR	1.67 $\pi^- p$

$\Gamma(\pi^+\pi^-)/\Gamma_{total}$ Γ_3/Γ

See also $\Gamma(\pi^+\pi^-)/\Gamma(\pi^+\pi^-\pi^0)$.

VALUE	DOCUMENT ID		TECN	COMMENT
0.0223±0.0030 OUR FIT				
0.021 ±0.004 OUR AVERAGE				
0.023 ±0.005	BARKOV	85	OLYA	e^+e^-
$0.016\ ^{+0.009}_{-0.007}$	QUENZER	78	CNTR	e^+e^-
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.019 ±0.003	[20] GARDNER	99	RVUE	$e^+e^- \to \pi^+\pi^-$
0.023 ±0.004	[21] BENAYOUN	98	RVUE	$e^+e^- \to \pi^+\pi^-$, $\mu^+\mu^-$
0.010 ±0.001	[22] WICKLUND	78	ASPK	3,4,6 $\pi^\pm N$
0.0122±0.0030	ALVENSLEB...	71C	CNTR	Photoproduction
$0.013\ ^{+0.012}_{-0.009}$	MOFFEIT	71	HBC	2.8,4.7 γp
$0.0080\ ^{+0.0028}_{-0.002}$	[23] BIGGS	70B	CNTR	4.2γ C $\to \pi^+\pi^-$ C

[20] Using the data of BARKOV 85.
[21] Using the data of BARKOV 85 in the hidden local symmetry model.
[22] From a model-dependent analysis assuming complete coherence.
[23] Re-evaluated under $\Gamma(\pi^+\pi^-)/\Gamma(\pi^+\pi^-\pi^0)$ by BEHREND 71 using more accurate $\omega \to \rho$ photoproduction cross-section ratio.

$\Gamma(\pi^0\pi^0\gamma)/\Gamma(\text{neutrals})$ $\Gamma_{12}/(\Gamma_2+\Gamma_4)$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.22±0.07		[24] DAKIN	72	OSPK	1.4 $\pi^- p \to n$MM
<0.19	90	DEINET	69B	OSPK	

[24] See $\Gamma(\pi^0\gamma)/\Gamma(\text{neutrals})$.

$\Gamma(\pi^0\gamma)/\Gamma(\text{neutrals})$ $\Gamma_2/(\Gamma_2+\Gamma_4)$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.78±0.07		[25] DAKIN	72	OSPK	1.4 $\pi^- p \to n$MM
>0.81	90	DEINET	69B	OSPK	

[25] Error statistical only. Authors obtain good fit also assuming $\pi^0\gamma$ as the only neutral decay.

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

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
6.5 ±1.0 OUR AVERAGE					
6.6 ±1.7		[26] ABELE	97E	CBAR	0.0 $\bar{p}p \to 5\gamma$
8.3 ±2.1		ALDE	93	GAM2	$38\pi^- p \to \omega n$
7.3 ±2.9		[27] DOLINSKY	89	ND	$e^+e^- \to \eta\gamma$
$3.0\ ^{+2.5}_{-1.8}$		[27] ANDREWS	77	CNTR	6.7–10 γCu

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

$4.60 \pm 0.72 \pm 0.19$	312	[28] ACHASOV	00D	SND	$e^+ e^- \to \eta\gamma$	
0.7 to 5.5		[29] CASE	00	CBAR	0.0 $p\overline{p} \to \eta\eta\gamma$	
$6.56^{+2.41}_{-2.55}$	3525	[27,30] BENAYOUN	96	RVUE	$e^+ e^- \to \eta\gamma$	

[26] No flat $\eta\eta\gamma$ background assumed.
[27] Solution corresponding to constructive ω-ρ interference.
[28] Using $B(\omega \to e^+ e^-) = (7.07 \pm 0.19) \times 10^{-5}$ and $B(\eta \to 3\pi^0) = (32.2 \pm 0.4) \times 10^{-2}$.
[29] Depending on the degree of coherence with the flat $\eta\eta\gamma$ background and using $B(\omega \to \pi^0\gamma) = (8.5 \pm 0.5) \times 10^{-2}$.
[30] Reanalysis of DRUZHININ 84, DOLINSKY 89, DOLINSKY 91 taking into account the triangle anomaly contributions.

$\Gamma(\pi^0 \mu^+ \mu^-)/\Gamma(\mu^+ \mu^-)$ Γ_7/Γ_{13}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.2 ± 0.6	30	[31] DZHELYADIN	79	CNTR	25–33 π^- p

[31] Superseded by DZHELYADIN 81B result above.

$\Gamma(\pi^+ \pi^- \pi^0)/\Gamma_{total}$ Γ_1/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.8942±0.0062		DOLINSKY	89	ND	$e^+ e^- \to \pi^+ \pi^- \pi^0$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.880 \pm 0.020 \pm 0.032$	11200	[32] AKHMETSHIN	00C	CMD2	$e^+ e^- \to \pi^+ \pi^- \pi^0$

[32] Using $\Gamma(e^+ e^-) = 0.60 \pm 0.02$ keV.

$\Gamma(3\pi^0)/\Gamma_{total}$ Γ_{16}/Γ

Violates C conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0003	90	PROKOSHKIN	95	GAM2	38 π^- $p \to 3\pi^0$ n

$\Gamma(3\gamma)/\Gamma_{total}$ Γ_{14}/Γ

VALUE (units 10^{-4})	CL%	DOCUMENT ID		TECN	COMMENT
<1.9	95	[33] ABELE	97E	CBAR	0.0 $\overline{p}p \to 5\gamma$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<2	90	[33] PROKOSHKIN	95	GAM2	38 π^- $p \to 3\gamma$ n

[33] From direct 3γ decay search.

$\Gamma(\pi^0\gamma)/\Gamma_{total}$ Γ_2/Γ

VALUE (units 10^{-2})	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
8.39 ± 0.24	9975	[34] BENAYOUN	96	RVUE	$e^+ e^- \to \pi^0\gamma$

[34] Reanalysis of DRUZHININ 84, DOLINSKY 89, DOLINSKY 91 taking into account the triangle anomaly contributions.

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