D^0

$I(J^P) = \frac{1}{2}(0^-)$

D^0 MASS

The fit includes $D^{\pm}$, D^0, $D_s^{\pm}$, $D^{*\pm}$, D^{*0}, and $D_s^{*\pm}$ mass and mass difference measurements.

VALUE (MeV)	EVTS	DOCUMENT ID		TECN	COMMENT
1864.5± 0.5 OUR FIT	Error includes scale factor of 1.1.				
1864.1± 1.0 OUR AVERAGE					
1864.6± 0.3±1.0	641	BARLAG	90C	ACCM	π^- Cu 230 GeV
1852 ± 7	16	ADAMOVICH	87	EMUL	Photoproduction
1861 ± 4		DERRICK	84	HRS	e^+e^- 29 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1856 ±36	22	ADAMOVICH	84B	EMUL	Photoproduction
1847 ± 7	1	FIORINO	81	EMUL	$\gamma N \rightarrow \overline{D}^0 +$
1863.8± 0.5		[1] SCHINDLER	81	MRK2	e^+e^- 3.77 GeV
1864.7± 0.6		[1] TRILLING	81	RVUE	e^+e^- 3.77 GeV
1863.0± 2.5	238	ASTON	80E	OMEG	$\gamma p \rightarrow \overline{D}^0$
1860 ± 2	143	[2] AVERY	80	SPEC	$\gamma N \rightarrow D^{*+}$
1869 ± 4	35	[2] AVERY	80	SPEC	$\gamma N \rightarrow D^{*+}$
1854 ± 6	94	[2] ATIYA	79	SPEC	$\gamma N \rightarrow D^0\overline{D}^0$
1850 ±15	64	BALTAY	78C	HBC	$\nu N \rightarrow K^0\pi\pi$
1863 ± 3		GOLDHABER	77	MRK1	D^0, D^+ recoil spectra
1863.3± 0.9		[1] PERUZZI	77	MRK1	e^+e^- 3.77 GeV
1868 ±11		PICCOLO	77	MRK1	e^+e^- 4.03, 4.41 GeV
1865 ±15	234	GOLDHABER	76	MRK1	$K\pi$ and $K3\pi$

[1] PERUZZI 77 and SCHINDLER 81 errors do not include the 0.13% uncertainty in the absolute SPEAR energy calibration. TRILLING 81 uses the high precision $J/\psi(1S)$ and $\psi(2S)$ measurements of ZHOLENTZ 80 to determine this uncertainty and combines the PERUZZI 77 and SCHINDLER 81 results to obtain the value quoted. TRILLING 81 enters the fit in the $D^{\pm}$ mass, and PERUZZI 77 and SCHINDLER 81 enter in the $m_{D^{\pm}} - m_{D^0}$, below.

[2] Error does not include possible systematic mass scale shift, estimated to be less than 5 MeV.

$\left|m_{D_1^0} - m_{D_2^0}\right|$

The D_1^0 and D_2^0 are the mass eigenstates of the D^0 meson.

VALUE (10^{10} $\hbar$ s^{-1})	CL%	DOCUMENT ID		TECN	COMMENT
< 20	90	[3,4] ANJOS	88C	E691	Photoproduction
• • • We do not use the following data for averages, fits, limits, etc. • • •					
< 40	90	[3] ALBRECHT	87K	ARG	e^+e^- 10 GeV
< 24	90	[5] LOUIS	86	SPEC	π^- W 225 GeV
<106	90	[3,6] YAMAMOTO	85	DLCO	e^+e^- 29 GeV
< 99	90	[5] BODEK	82	SPEC	π^-, pFe $\rightarrow D^0$

[3] Limit inferred from the D^0-$\overline{D}^0$ mixing ratio $\Gamma(K^+\pi^-$ (via $\overline{D}^0))/\Gamma(K^-\pi^+)$ near the end of the D^0 Listings.

[4] Calculated by us using $\Delta(m) = (2r/(1-r))^{1/2}\hbar/4.21 \times 10^{-13}$ s, where r is the D^0-$\overline{D}^0$ mixing ratio. See the data on $r \equiv \Gamma(K^+\pi^-$ (via $\overline{D}^0))/\Gamma(K^-\pi^+)$ near the end of the D^0 Listings.

[5] Limit inferred from the D^0-$\overline{D}^0$ mixing ratio $\Gamma(\mu^-$anything (via $\overline{D}^0))/\Gamma(\mu^+$anything) near the end of the D^0 Listings.

[6] YAMAMOTO 85 gives $\Delta(m)/\Gamma <$ 0.44. We use $\Gamma = \hbar/4.3 \times 10^{-13}$ s.

*CITATION: L. Montanet et al., Physical Review D50, 1173 (1994) and 1995 off-year partial update for the 1996 edition (URL: http://pdg.lbl.gov/)

$m_{D^\pm} - m_{D^0}$

The fit includes $D^\pm$, D^0, $D_s^\pm$, $D^{*\pm}$, D^{*0}, and $D_s^{*\pm}$ mass and mass difference measurements.

VALUE (MeV)	DOCUMENT ID		TECN	COMMENT
4.78±0.10 OUR FIT				
4.74±0.28 OUR AVERAGE				
4.7 ±0.3	[7] SCHINDLER	81	MRK2	e^+e^- 3.77 GeV
5.0 ±0.8	[7] PERUZZI	77	MRK1	e^+e^- 3.77 GeV

[7] See the footnote on TRILLING 81 in the D^0 and $D^\pm$ sections on the mass.

D^0 MEAN LIFE

Measurements with an error $> 0.05 \times 10^{-12}$ s are omitted from the average, and those with an error $> 0.1 \times 10^{-12}$ s or that have been superseded by later results have been removed from the Listings.

VALUE (10^{-12} s)	EVTS	DOCUMENT ID		TECN	COMMENT
0.415±0.004 OUR AVERAGE					
0.413±0.004±0.003	16k	FRABETTI	94D	E687	$K^-\pi^+$, $K^-\pi^+\pi^+\pi^-$
0.424±0.011±0.007	5118	FRABETTI	91	E687	$K^-\pi^+$, $K^-\pi^+\pi^+\pi^-$
0.417±0.018±0.015	890	ALVAREZ	90	NA14	$K^-\pi^+$, $K^-\pi^+\pi^+\pi^-$
$0.388^{+0.023}_{-0.021}$	641	[8] BARLAG	90C	ACCM	π^- Cu 230 GeV
0.48 ±0.04 ±0.03	776	ALBRECHT	88I	ARG	e^+e^- 10 GeV
0.422±0.008±0.010	4212	RAAB	88	E691	Photoproduction
0.42 ±0.05	90	BARLAG	87B	ACCM	K^- and π^- 200 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.34^{+0.06}_{-0.05}\pm0.03$	58	AMENDOLIA	88	SPEC	Photoproduction
$0.46^{+0.06}_{-0.05}$	145	AGUILAR-...	87D	HYBR	π^-p and pp
0.50 ±0.07 ±0.04	317	CSORNA	87	CLEO	e^+e^- 10 GeV
0.61 ±0.09 ±0.03	50	ABE	86	HYBR	γp 20 GeV
$0.47^{+0.09}_{-0.08}\pm0.05$	74	GLADNEY	86	MRK2	e^+e^- 29 GeV
$0.43^{+0.07}_{-0.05}{}^{+0.01}_{-0.02}$	58	USHIDA	86B	EMUL	ν wideband
$0.37^{+0.10}_{-0.07}$	26	BAILEY	85	SILI	π^- Be 200 GeV

[8] BARLAG 90C estimate systematic error to be negligible.

$\left|\tau_{D_1^0} - \tau_{D_2^0}\right|/\tau_{D^0}$ MEAN LIFE DIFFERENCE/AVERAGE

The D_1^0 and D_2^0 are the mass eigenstates of the D^0 meson.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.17	90	[9,10] ANJOS	88C	E691	Photoproduction
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.21	90	[11] LOUIS	86	SPEC	π^- W 225 GeV
<0.8	90	[9] YAMAMOTO	85	DLCO	e^+e^- 29 GeV
<0.55	90	[11] BODEK	82	SPEC	π^-, pFe $\rightarrow$ D^0

[9] This limit is inferred from the D^0-$\overline{D}^0$ mixing ratio $\Gamma(K^+\pi^-\ (\text{via}\ \overline{D}^0))/\Gamma(K^-\pi^+)$ near the end of the D^0 Listings.

[10] Calculated by us using $\Delta\Gamma = (8r/(1+r))^{1/2}\hbar/4.21 \times 10^{-13}$ s, where r is the D^0-$\overline{D}^0$ mixing ratio. See the data on $r \equiv \Gamma(K^+\pi^-\ (\text{via}\ \overline{D}^0))/\Gamma(K^-\pi^+)$ near the end of the D^0 Listings.

[11] Limit inferred from the D^0-$\overline{D}^0$ mixing ratio $\Gamma(\mu^-\text{anything (via } \overline{D}^0))/\Gamma(\mu^+\text{anything})$ near the end of the D^0 Listings.

D^0 DECAY MODES

$\overline{D}^0$ modes are charge conjugates of the modes below.

Mode	Fraction (Γ_i/Γ)	Scale factor/ Confidence level

Inclusive modes

Γ_1	e^+ anything		(7.7 ± 1.2) %	S=1.1
Γ_2	μ^+ anything		(7.6 ± 1.7) %	
Γ_3	K^- anything		(53 ± 4) %	S=1.3
Γ_4	$\overline{K}^0$ anything + K^0 anything		(42 ± 5) %	
Γ_5	K^+ anything		$(3.4 {}^{+0.6}_{-0.4})$ %	
Γ_6	η anything	[a]	< 13 %	CL=90%

Semileptonic modes

Γ_7	K^- "e^+" ν_e	[b]	(3.54 ± 0.22) %	S=1.2
Γ_8	$K^- e^+ \nu_e$		(3.65 ± 0.20) %	S=1.1
Γ_9	$K^- \mu^+ \nu_\mu$		(3.1 ± 0.4) %	
Γ_{10}	$K^- \pi^0 e^+ \nu_e$	[c]	$(1.6 {}^{+1.3}_{-0.5})$ %	
Γ_{11}	$\overline{K}^0 \pi^- e^+ \nu_e$	[c]	$(2.8 {}^{+1.7}_{-0.9})$ %	
Γ_{12}	$\overline{K}^*(892)^- e^+ \nu_e$ $\times$ B$(K^{*-} \to \overline{K}^0 \pi^+)$		(1.3 ± 0.2) %	
Γ_{13}	$K^*(892)^- \ell^+ \nu_\ell$	[d]		
Γ_{14}	$K^- \pi^0 (\pi^0) e^+ \nu_e$			
Γ_{15}	$\overline{K}^0 \pi^- (\pi^0) e^+ \nu_e$			
Γ_{16}	$\overline{K}^*(892)^0 \pi^- e^+ \nu_e$	[e]	< 1.3 %	CL=90%
Γ_{17}	$K^- \pi^+ \pi^- \mu^+ \nu_\mu$		$< 1.1 \times 10^{-3}$	CL=90%
Γ_{18}	$(\overline{K}^*(892)\pi)^- \mu^+ \nu_\mu$		$< 1.3 \times 10^{-3}$	CL=90%
Γ_{19}	$\pi^- e^+ \nu_e$		$(3.9 {}^{+2.3}_{-1.2}) \times 10^{-3}$	

A fraction of the following resonance mode has already appeared above as a submode of a particular charged-particle mode.

Γ_{20}	$K^*(892)^- e^+ \nu_e$		(2.00 ± 0.33) %	

Hadronic modes with one or three K's

Γ_{21}	$K^- \pi^+$		(3.84 ± 0.13) %	
Γ_{22}	$\overline{K}^0 \pi^0$		(2.09 ± 0.21) %	S=1.1
Γ_{23}	$\overline{K}^0 \pi^+ \pi^-$	[f]	(5.4 ± 0.4) %	S=1.2
Γ_{24}	$\overline{K}^0 \rho^0$		(1.20 ± 0.17) %	
Γ_{25}	$\overline{K}^0 f_0(980)$ $\times$ B$(f_0 \to \pi^+ \pi^-)$		$(2.9 \pm 0.8) \times 10^{-3}$	
Γ_{26}	$\overline{K}^0 f_2(1270)$ $\times$ B$(f_2 \to \pi^+ \pi^-)$		$(2.3 \pm 0.9) \times 10^{-3}$	
Γ_{27}	$\overline{K}^0 f_0(1300)$ $\times$ B$(f_0 \to \pi^+ \pi^-)$		$(4.2 \pm 1.3) \times 10^{-3}$	
Γ_{28}	$K^*(892)^- \pi^+$ $\times$ B$(K^{*-} \to \overline{K}^0 \pi^-)$		(3.3 ± 0.3) %	
Γ_{29}	$K_0^*(1430)^- \pi^+$ $\times$ B$(K_0^*(1430)^- \to \overline{K}^0 \pi^-)$		$(6.6 \pm 1.7) \times 10^{-3}$	
Γ_{30}	$\overline{K}^0 \pi^+ \pi^-$ nonresonant		(1.45 ± 0.24) %	
Γ_{31}	$K^- \pi^+ \pi^0$	[f]	(13.5 ± 1.1) %	S=1.3
Γ_{32}	$K^- \rho^+$		(10.2 ± 1.1) %	
Γ_{33}	$K^*(892)^- \pi^+$ $\times$ B$(K^{*-} \to K^- \pi^0)$		(1.7 ± 0.2) %	
Γ_{34}	$\overline{K}^*(892)^0 \pi^0$ $\times$ B$(\overline{K}^{*0} \to K^- \pi^+)$		(2.1 ± 0.3) %	
Γ_{35}	$K^- \pi^+ \pi^0$ nonresonant		$(6.7 \pm 2.4) \times 10^{-3}$	
Γ_{36}	$\overline{K}^0 \pi^0 \pi^0$			
Γ_{37}	$\overline{K}^*(892)^0 \pi^0$ $\times$ B$(\overline{K}^{*0} \to \overline{K}^0 \pi^0)$		(1.0 ± 0.2) %	
Γ_{38}	$\overline{K}^0 \pi^0 \pi^0$ nonresonant		$(7.7 \pm 2.0) \times 10^{-3}$	
Γ_{39}	$K^- \pi^+ \pi^+ \pi^-$	[f]	(7.5 ± 0.4) %	S=1.1
Γ_{40}	$K^- \pi^+ \rho^0$ total		(6.3 ± 0.4) %	
Γ_{41}	$K^- \pi^+ \rho^0$ 3-body		$(4.8 \pm 2.1) \times 10^{-3}$	

Γ_{42}	$\overline{K}^*(892)^0\rho^0$ $\times$ B($\overline{K}^{*0} \to K^-\pi^+$)		(9.8 $\pm$ 2.2) $\times 10^{-3}$	
Γ_{43}	$K^- a_1(1260)^+$ $\times$ B($a_1(1260)^+ \to \pi^+\pi^+\pi^-$)		(3.6 $\pm$ 0.6) %	
Γ_{44}	$\overline{K}^*(892)^0\pi^+\pi^-$ total $\times$ B($\overline{K}^{*0} \to K^-\pi^+$)		(1.5 $\pm$ 0.4) %	
Γ_{45}	$\overline{K}^*(892)^0\pi^+\pi^-$ 3-body $\times$ B($\overline{K}^{*0} \to K^-\pi^+$)		(9.5 $\pm$ 2.2) $\times 10^{-3}$	
Γ_{46}	$K_1(1270)^-\pi^+$ $\times$ B($K_1(1270)^- \to K^-\pi^+\pi^-$)		(3.6 $\pm$ 1.0) $\times 10^{-3}$	
Γ_{47}	$K^-\pi^+\pi^+\pi^-$ nonresonant		(1.76 $\pm$ 0.25) %	
Γ_{48}	$\overline{K}^0\pi^+\pi^-\pi^0$	[f]	(9.9 $\pm$ 1.2) %	
Γ_{49}	$\overline{K}^0\eta$ $\times$ B($\eta \to \pi^+\pi^-\pi^0$)		(1.6 $\pm$ 0.3) $\times 10^{-3}$	
Γ_{50}	$\overline{K}^0\omega$ $\times$ B($\omega \to \pi^+\pi^-\pi^0$)		(1.8 $\pm$ 0.4) %	
Γ_{51}	$K^*(892)^-\rho^+$ $\times$ B($K^{*-} \to \overline{K}^0\pi^-$)		(4.0 $\pm$ 1.6) %	
Γ_{52}	$\overline{K}^*(892)^0\rho^0$ $\times$ B($\overline{K}^{*0} \to \overline{K}^0\pi^0$)		(4.9 $\pm$ 1.1) $\times 10^{-3}$	
Γ_{53}	$K_1(1270)^-\pi^+$ $\times$ B($K_1(1270)^- \to \overline{K}^0\pi^-\pi^0$)	[g]	(5.0 $\pm$ 1.4) $\times 10^{-3}$	
Γ_{54}	$\overline{K}^*(892)^0\pi^+\pi^-$ 3-body $\times$ B($\overline{K}^{*0} \to \overline{K}^0\pi^0$)		(4.7 $\pm$ 1.1) $\times 10^{-3}$	
Γ_{55}	$\overline{K}^0\pi^+\pi^-\pi^0$ nonresonant		(2.1 $\pm$ 2.1) %	
Γ_{56}	$K^-\pi^+\pi^0\pi^0$		(15 $\pm$ 5) %	
Γ_{57}	$K^-\pi^+\pi^+\pi^-\pi^0$		(4.1 $\pm$ 0.4) %	
Γ_{58}	$\overline{K}^*(892)^0\pi^+\pi^-\pi^0$ $\times$ B($\overline{K}^{*0} \to K^-\pi^+$)		(1.2 $\pm$ 0.6) %	
Γ_{59}	$\overline{K}^*(892)^0\eta$ $\times$ B($\overline{K}^{*0} \to K^-\pi^+$) $\times$ B($\eta \to \pi^+\pi^-\pi^0$)		(2.8 $\pm$ 0.8) $\times 10^{-3}$	
Γ_{60}	$K^-\pi^+\omega$ $\times$ B($\omega \to \pi^+\pi^-\pi^0$)		(2.7 $\pm$ 0.5) %	
Γ_{61}	$\overline{K}^*(892)^0\omega$ $\times$ B($\overline{K}^{*0} \to K^-\pi^+$) $\times$ B($\omega \to \pi^+\pi^-\pi^0$)		(7 $\pm$ 3) $\times 10^{-3}$	
Γ_{62}	$\overline{K}^0\pi^+\pi^+\pi^-\pi^-$		(5.7 $\pm$ 1.6) $\times 10^{-3}$	
Γ_{63}	$\overline{K}^0\pi^+\pi^-\pi^0\pi^0(\pi^0)$		(10.6 $^{+7.3}_{-3.0}$) %	
Γ_{64}	$\overline{K}^0 K^+ K^-$		(9.2 $\pm$ 1.0) $\times 10^{-3}$	

In the fit as $\frac{1}{2}\Gamma_{75} + \Gamma_{66}$, where $\frac{1}{2}\Gamma_{75} = \Gamma_{65}$.

Γ_{65}	$\overline{K}^0\phi$ $\times$ B($\phi \to K^+K^-$)	(4.2 $\pm$ 0.5) $\times 10^{-3}$	
Γ_{66}	$\overline{K}^0 K^+ K^-$ non-ϕ	(5.0 $\pm$ 0.8) $\times 10^{-3}$	
Γ_{67}	$K^0_S K^0_S K^0_S$	(9.7 $\pm$ 2.3) $\times 10^{-4}$	
Γ_{68}	$K^+K^-\overline{K}^0\pi^0$	(7.2 $^{+4.8}_{-3.5}$) $\times 10^{-3}$	

Fractions of many of the following modes with resonances have already appeared above as submodes of particular charged-particle modes. (Modes for which there are only upper limits and $\overline{K}^*(892)\rho$ submodes only appear below.)

Γ_{69}	$\overline{K}^0\eta$	(6.9 $\pm$ 1.0) $\times 10^{-3}$	
Γ_{70}	$\overline{K}^0\rho^0$	(1.20 $\pm$ 0.17) %	
Γ_{71}	$K^-\rho^+$	(10.2 $\pm$ 1.1) %	S=1.2
Γ_{72}	$\overline{K}^0\omega$	(2.0 $\pm$ 0.4) %	
Γ_{73}	$\overline{K}^0\eta'(958)$	(1.69 $\pm$ 0.26) %	
Γ_{74}	$\overline{K}^0 f_0(980)$	(5.6 $\pm$ 1.6) $\times 10^{-3}$	
Γ_{75}	$\overline{K}^0\phi$	(8.5 $\pm$ 1.0) $\times 10^{-3}$	
Γ_{76}	$K^- a_1(1260)^+$	(7.3 $\pm$ 1.1) %	
Γ_{77}	$\overline{K}^0 a_1(1260)^0$	< 1.9 %	CL=90%
Γ_{78}	$\overline{K}^0 f_2(1270)$	(4.1 $\pm$ 1.5) $\times 10^{-3}$	
Γ_{79}	$\overline{K}^0 f_0(1300)$	(6.8 $\pm$ 2.1) $\times 10^{-3}$	
Γ_{80}	$K^- a_2(1320)^+$	< 2 $\times 10^{-3}$	CL=90%

Γ_{81}	$K^*(892)^- \pi^+$		(5.0 ± 0.4) %	S=1.2
Γ_{82}	$\overline{K}^*(892)^0 \pi^0$		(3.1 ± 0.4) %	
Γ_{83}	$\overline{K}^*(892)^0 \pi^+ \pi^-$ total		(2.3 ± 0.5) %	
Γ_{84}	$\overline{K}^*(892)^0 \pi^+ \pi^-$ 3-body		(1.42 ± 0.32) %	
Γ_{85}	$K^- \pi^+ \rho^0$ total		(6.3 ± 0.4) %	
Γ_{86}	$K^- \pi^+ \rho^0$ 3-body		$(4.8 \pm 2.1) \times 10^{-3}$	
Γ_{87}	$\overline{K}^*(892)^0 \rho^0$		(1.47 ± 0.33) %	
Γ_{88}	$\overline{K}^*(892)^0 \rho^0$ transverse		(1.5 ± 0.5) %	
Γ_{89}	$\overline{K}^*(892)^0 \rho^0$ S-wave		(2.8 ± 0.6) %	
Γ_{90}	$\overline{K}^*(892)^0 \rho^0$ S-wave long.		$< 3 \times 10^{-3}$	CL=90%
Γ_{91}	$\overline{K}^*(892)^0 \rho^0$ P-wave		$< 3 \times 10^{-3}$	CL=90%
Γ_{92}	$\overline{K}^*(892)^0 \rho^0$ D-wave		(1.9 ± 0.6) %	
Γ_{93}	$K^*(892)^- \rho^+$		(6.0 ± 2.4) %	
Γ_{94}	$K^*(892)^- \rho^+$ longitudinal		(2.9 ± 1.2) %	
Γ_{95}	$K^*(892)^- \rho^+$ transverse		(3.1 ± 1.8) %	
Γ_{96}	$K^*(892)^- \rho^+$ P-wave		< 1.5 %	CL=90%
Γ_{97}	$K^- \pi^+ f_0(980)$		< 1.1 %	CL=90%
Γ_{98}	$\overline{K}^*(892)^0 f_0(980)$		$< 7 \times 10^{-3}$	CL=90%
Γ_{99}	$K_1(1270)^- \pi^+$	[g]	(1.05 ± 0.29) %	
Γ_{100}	$K_1(1400)^- \pi^+$		< 1.2 %	CL=90%
Γ_{101}	$\overline{K}_1(1400)^0 \pi^0$		< 3.7 %	CL=90%
Γ_{102}	$K^*(1410)^- \pi^+$		< 1.2 %	CL=90%
Γ_{103}	$K_0^*(1430)^- \pi^+$		$(9.9 \pm 2.5) \times 10^{-3}$	
Γ_{104}	$K_2^*(1430)^- \pi^+$		$< 8 \times 10^{-3}$	CL=90%
Γ_{105}	$\overline{K}_2^*(1430)^0 \pi^0$		$< 4 \times 10^{-3}$	CL=90%
Γ_{106}	$\overline{K}^*(892)^0 \pi^+ \pi^- \pi^0$		(1.8 ± 0.9) %	
Γ_{107}	$\overline{K}^*(892)^0 \eta$		(1.8 ± 0.5) %	
Γ_{108}	$K^- \pi^+ \omega$		(3.0 ± 0.6) %	
Γ_{109}	$\overline{K}^*(892)^0 \omega$		(1.1 ± 0.5) %	
Γ_{110}	$K^- \pi^+ \eta'(958)$		$(7.0 \pm 1.8) \times 10^{-3}$	
Γ_{111}	$\overline{K}^*(892)^0 \eta'(958)$		$< 1.1 \times 10^{-3}$	CL=90%

Pionic modes

Γ_{112}	$\pi^+ \pi^-$		$(1.52 \pm 0.11) \times 10^{-3}$	
Γ_{113}	$\pi^0 \pi^0$		$(8.5 \pm 2.2) \times 10^{-4}$	
Γ_{114}	$\pi^+ \pi^- \pi^0$		(1.6 ± 1.1) %	S=2.7
Γ_{115}	$\pi^+ \pi^+ \pi^- \pi^-$		$(7.8 \pm 0.8) \times 10^{-3}$	
Γ_{116}	$\pi^+ \pi^+ \pi^- \pi^- \pi^0$		(1.9 ± 0.4) %	
Γ_{117}	$\pi^+ \pi^+ \pi^+ \pi^- \pi^- \pi^-$		$(4.0 \pm 3.0) \times 10^{-4}$	

Hadronic modes with two K's

Γ_{118}	$K^+ K^-$		$(4.35 \pm 0.27) \times 10^{-3}$	
Γ_{119}	$K^0 \overline{K}^0$		$(1.2 \pm 0.4) \times 10^{-3}$	
Γ_{120}	$K^0 K^- \pi^+$		$(6.4 \pm 1.0) \times 10^{-3}$	S=1.1
Γ_{121}	$\overline{K}^*(892)^0 K^0$ $\times$ B($\overline{K}^{*0} \to K^- \pi^+$)		$< 1.1 \times 10^{-3}$	CL=90%
Γ_{122}	$K^*(892)^+ K^-$ $\times$ B($K^{*+} \to K^0 \pi^+$)		$(2.3 \pm 0.5) \times 10^{-3}$	
Γ_{123}	$K^0 K^- \pi^+$ nonresonant		$(2.3 \pm 2.3) \times 10^{-3}$	
Γ_{124}	$\overline{K}^0 K^+ \pi^-$		$(4.9 \pm 1.0) \times 10^{-3}$	
Γ_{125}	$K^*(892)^0 \overline{K}^0$ $\times$ B($K^{*0} \to K^+ \pi^-$)		$< 5 \times 10^{-4}$	CL=90%
Γ_{126}	$K^*(892)^- K^+$ $\times$ B($K^{*-} \to \overline{K}^0 \pi^-$)		$(1.2 \pm 0.7) \times 10^{-3}$	
Γ_{127}	$\overline{K}^0 K^+ \pi^-$ nonresonant		$(3.8 {}^{+2.3}_{-1.9}) \times 10^{-3}$	

Γ_{128}	$K^+K^-\pi^+\pi^-$			$(2.5 \pm 0.4) \times 10^{-3}$	
Γ_{129}	$\phi\pi^+\pi^- \times B(\phi \to K^+K^-)$			$(1.3 \pm 0.4) \times 10^{-3}$	
Γ_{130}	$\phi\rho^0 \times B(\phi \to K^+K^-)$			$(8.5 \pm 2.0) \times 10^{-4}$	
Γ_{131}	$K^*(892)^0 K^-\pi^+ +$ c.c. $\times$ $B(K^{*0} \to K^+\pi^-)$			$(5 \; ^{+8}_{-5}) \times 10^{-4}$	
Γ_{132}	$K^*(892)^0 K^-\pi^+$ $\times B(K^{*0} \to K^+\pi^-)$				
Γ_{133}	$\overline{K}^*(892)^0 K^+\pi^-$ $\times B(\overline{K}^{*0} \to K^-\pi^+)$				
Γ_{134}	$K^*(892)^0 \overline{K}^*(892)^0$ $\times B^2(K^{*0} \to K^+\pi^-)$			$(1.2 \; ^{+0.7}_{-0.5}) \times 10^{-3}$	
Γ_{135}	$K^+K^-\pi^+\pi^-$ non-ϕ			$(1.7 \pm 0.5) \times 10^{-3}$	
Γ_{136}	$K^+K^-\pi^+\pi^-$ nonresonant			$(8 \; ^{+80}_{-8}) \times 10^{-5}$	
Γ_{137}	$K^0_S K^0_S \pi^+\pi^-$			$(1.7 \pm 0.6) \times 10^{-3}$	
Γ_{138}	$K^+K^-\pi^+\pi^-\pi^0$			$(3.1 \pm 2.0) \times 10^{-3}$	

Fractions of the following modes with resonances have already appeared above as submodes of particular charged-particle modes.

Γ_{139}	$\overline{K}^*(892)^0 K^0$			$< 1.6 \times 10^{-3}$	CL=90%
Γ_{140}	$K^*(892)^+ K^-$			$(3.4 \pm 0.8) \times 10^{-3}$	
Γ_{141}	$K^*(892)^0 \overline{K}^0$			$< 8 \times 10^{-4}$	CL=90%
Γ_{142}	$K^*(892)^- K^+$			$(1.8 \pm 1.0) \times 10^{-3}$	
Γ_{143}	$\phi\pi^0$			$< 1.4 \times 10^{-3}$	CL=90%
Γ_{144}	$\phi\eta$			$< 2.8 \times 10^{-3}$	CL=90%
Γ_{145}	$\phi\omega$			$< 2.1 \times 10^{-3}$	CL=90%
Γ_{146}	$\phi\pi^+\pi^-$			$(1.5 \pm 0.6) \times 10^{-3}$	
Γ_{147}	$\phi\rho^0$			$(1.7 \pm 0.4) \times 10^{-3}$	
Γ_{148}	$K^*(892)^0 K^-\pi^+ +$ c.c.			$(8 \; ^{+12}_{-8}) \times 10^{-4}$	
Γ_{149}	$K^*(892)^0 K^-\pi^+$			$(3.2 \pm 1.3) \times 10^{-3}$	
Γ_{150}	$\overline{K}^*(892)^0 K^+\pi^-$			$(1.7 \pm 1.2) \times 10^{-3}$	
Γ_{151}	$K^*(892)^0 \overline{K}^*(892)^0$			$(2.7 \; ^{+1.5}_{-1.2}) \times 10^{-3}$	

Doubly Cabibbo suppressed (*DC*) modes, $\Delta C = 2$ forbidden via mixing (*C2M*) modes, $\Delta C = 1$ weak neutral current (*C1*) modes, or Lepton Family number (*LF*) violating modes

Γ_{152}	$K^+\pi^-$	*DC*		$(3.0 \pm 1.4) \times 10^{-4}$	
Γ_{153}	$K^+\pi^-$ (via $\overline{D}^0$)			$< 1.4 \times 10^{-4}$	CL=90%
Γ_{154}	$K^+\pi^+\pi^-\pi^-$	*DC*		$< 1.4 \times 10^{-3}$	CL=90%
Γ_{155}	μ^- anything (via $\overline{D}^0$)			$< 4 \times 10^{-4}$	CL=90%
Γ_{156}	e^+e^-	*C1*		$< 1.3 \times 10^{-4}$	CL=90%
Γ_{157}	$\mu^+\mu^-$	*C1*		$< 1.1 \times 10^{-5}$	CL=90%
Γ_{158}	$\pi^0\mu^+\mu^-$	*C1*		$< 1.8 \times 10^{-4}$	CL=90%
Γ_{159}	$\overline{K}^0 e^+e^-$			$< 1.7 \times 10^{-3}$	CL=90%
Γ_{160}	$\overline{K}^0 \mu^+\mu^-$			$< 2.6 \times 10^{-4}$	CL=90%
Γ_{161}	$\rho^0 e^+e^-$	*C1*		$< 4.5 \times 10^{-4}$	CL=90%
Γ_{162}	$\rho^0 \mu^+\mu^-$	*C1*		$< 2.3 \times 10^{-4}$	CL=90%
Γ_{163}	$\pi^+\pi^-\pi^0\mu^+\mu^-$	*C1*		$< 8.1 \times 10^{-4}$	CL=90%
Γ_{164}	$\mu^\pm e^\mp$	*LF*	[*h*]	$< 1.0 \times 10^{-4}$	CL=90%

Γ_{165}	A dummy mode used by the fit.	(25 ± 4) %	S=1.1

[*a*] This is a weighted average of $D^\pm$ (44%) and D^0 (56%) branching fractions. See "D^+ and $D^0 \to$ (η anything) / (total D^+ and D^0)" under "D^+ Branching Ratios" in these Full Listings.

[*b*] This value combines the e^+ and μ^+ branching fractions, making a small phase-space adjustment to the μ^+ fraction to be able to use it as an e^+

fraction; hence the "e^+." In fact, some of the e^+ measurements already use μ^+ events in this way.

[c] See the "Note on Semileptonic Decays of D and B Mesons" in the D^+ Full Listings for a comparison of inclusive and summed-inclusive branching fractions.

[d] ℓ indicates e or μ mode, not sum over modes.

[e] The limit on $(\overline{K}^*(892)\pi)^- \; \mu^+ \nu_\mu$ just below is much stronger.

[f] The branching fractions for this mode may differ from the sum of the submodes that contribute to it, due to interference effects. See the relevant papers.

[g] The two experiments determining this ratio are in serious disagreement. See the Full Listings.

[h] The value is for the sum of the charge states indicated.

CONSTRAINED FIT INFORMATION

An overall fit to 47 branching ratios uses 110 measurements and one constraint to determine 26 parameters. The overall fit has a $\chi^2 = 59.3$ for 85 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, $x_i \equiv \Gamma_i/\Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_{9}	15									
x_{20}	9	2								
x_{21}	59	25	8							
x_{22}	7	2	25	9						
x_{23}	9	3	37	12	67					
x_{31}	12	5	8	20	19	20				
x_{39}	21	9	3	36	4	5	7			
x_{48}	5	2	19	7	35	52	11	4		
x_{57}	14	6	2	24	2	3	5	35	2	
x_{66}	4	1	17	6	31	46	9	2	24	1
x_{69}	5	2	18	6	59	48	13	3	25	2
x_{72}	3	1	14	5	25	38	8	2	43	1
x_{75}	5	2	22	7	41	61	12	3	31	2
x_{81}	8	3	31	11	57	85	21	5	44	3
x_{82}	7	3	8	11	25	21	52	4	11	3
x_{84}	5	2	1	8	1	1	2	22	1	8
x_{88}	3	1	2	5	4	5	2	12	10	4
x_{99}	2	1	8	3	14	21	4	4	40	2
x_{107}	4	2	2	7	6	6	28	3	3	2
x_{118}	31	13	5	52	5	7	10	19	4	12
x_{119}	3	1	7	5	12	18	4	2	9	1
x_{120}	5	2	15	8	27	40	9	3	21	2
x_{124}	5	2	11	7	21	31	7	3	16	2
x_{140}	3	1	11	4	21	31	6	2	16	1
x_{165}	−26	−19	−36	−34	−55	−71	−57	−29	−68	−23
	x_{8}	x_{9}	x_{20}	x_{21}	x_{22}	x_{23}	x_{31}	x_{39}	x_{48}	x_{57}

	x_{66}	x_{69}	x_{72}	x_{75}	x_{81}	x_{82}	x_{84}	x_{88}	x_{99}	x_{107}
x_{69}	22									
x_{72}	18	18								
x_{75}	8	29	23							
x_{81}	39	41	32	51						
x_{82}	10	15	8	12	19					
x_{84}	1	1	1	1	1	1				
x_{88}	2	3	4	3	4	1	3			
x_{99}	10	10	17	13	18	4	1	4		
x_{107}	3	4	2	4	6	15	1	1	1	
x_{118}	3	4	3	4	6	6	4	2	2	4
x_{119}	8	9	7	11	15	4	0	1	4	1
x_{120}	19	19	15	24	34	8	1	2	8	3
x_{124}	14	15	12	19	26	7	1	2	6	2
x_{140}	14	15	12	19	26	6	0	2	6	2
x_{165}	−34	−40	−45	−45	−66	−44	−15	−24	−34	−28

	x_{118}	x_{119}	x_{120}	x_{124}	x_{140}
x_{119}	7				
x_{120}	4	7			
x_{124}	4	6	12		
x_{140}	2	6	12	10	
x_{165}	−19	−15	−32	−25	−24

D^0 BRANCHING RATIOS

See the "Note on D Meson Branching Fractions" and the "Note on Semileptonic Decays of D and B Mesons," in the $D^{\pm}$ Listings.

Some older, now obsolete results have been omitted from these Listings. They may be found in our 1990 edition (Phys. Lett. **B239**).

Inclusive modes

$\Gamma(e^+ \text{anything})/\Gamma_{\text{total}}$ — Γ_1/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.077±0.012 OUR AVERAGE	Error includes scale factor of 1.1.			
0.15 ±0.05		AGUILAR-... 87E	HYBR	πp, pp 360, 400 GeV
0.075±0.011±0.004	137	BALTRUSAIT..85B	MRK3	e^+e^- 3.77 GeV
0.055±0.037	12	SCHINDLER 81	MRK2	e^+e^- 3.771 GeV

$\Gamma(K^- \text{anything})/\Gamma_{\text{total}}$ — Γ_3/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.53 ±0.04 OUR AVERAGE	Error includes scale factor of 1.3. See the ideogram below.			
$0.546^{+0.039}_{-0.038}$		[12] BARLAG 92C	ACCM	π^- Cu 230 GeV
0.609±0.032±0.052		COFFMAN 91	MRK3	e^+e^- 3.77 GeV
0.42 ±0.08		AGUILAR-... 87E	HYBR	πp, pp 360, 400 GeV
0.55 ±0.11	121	SCHINDLER 81	MRK2	e^+e^- 3.771 GeV
0.35 ±0.10	19	VUILLEMIN 78	MRK1	e^+e^- 3.772 GeV

[12] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma\left(K^- \text{anything}\right)/\Gamma_{\text{total}}$

$\left[\Gamma\left(\overline{K}^0 \text{anything}\right) + \Gamma\left(K^0 \text{anything}\right)\right]/\Gamma_{\text{total}}$ — Γ_4/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.42 ±0.05 OUR AVERAGE					
0.455±0.050±0.032		COFFMAN	91	MRK3	$e^+ e^-$ 3.77 GeV
0.29 ±0.11	13	SCHINDLER	81	MRK2	$e^+ e^-$ 3.771 GeV
0.57 ±0.26	6	VUILLEMIN	78	MRK1	$e^+ e^-$ 3.772 GeV

$\Gamma\left(K^+ \text{anything}\right)/\Gamma_{\text{total}}$ — Γ_5/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$0.034^{+0.006}_{-0.004}$ OUR AVERAGE					
$0.034^{+0.007}_{-0.005}$		[13] BARLAG	92C	ACCM	π^- Cu 230 GeV
0.028±0.009±0.004		COFFMAN	91	MRK3	$e^+ e^-$ 3.77 GeV
$0.03\ ^{+0.05}_{-0.02}$		AGUILAR-...	87E	HYBR	πp, $p p$ 360, 400 GeV
0.08 ±0.03	25	SCHINDLER	81	MRK2	$e^+ e^-$ 3.771 GeV

[13] BARLAG 92C computes the branching fraction using topological normalization.

Semileptonic modes

$\Gamma\left(K^- \text{“}e^+\text{”} \nu_e\right)/\Gamma_{\text{total}}$ — Γ_7/Γ

We average our $K^- e^+ \nu_e$ and $K^- \mu^+ \nu_\mu$ branching fractions, multiplying the latter by a phase-space factor of 1.03 to be able to use it with the $K^- e^+ \nu_e$ fraction.

VALUE	DOCUMENT ID		COMMENT
0.0354±0.0022 OUR AVERAGE	Error includes scale factor of 1.2.		
0.0365±0.0020	PDG	94	Our $\Gamma(K^- e^+ \nu_e)/\Gamma_{\text{total}}$
0.031 ±0.004	PDG	94	1.03 × our $\Gamma(K^- \mu^+ \nu_\mu)/\Gamma_{\text{total}}$

$\Gamma\left(K^- e^+ \nu_e\right)/\Gamma_{\text{total}}$ — Γ_8/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0365±0.0020 OUR FIT	Error includes scale factor of 1.1.				
0.034 ±0.005 ±0.004	55	[14] ADLER	89	MRK3	$e^+ e^-$ 3.77 GeV

[14] Experiment gives $\left|V_{cd}/V_{cs}\right|^2 = 0.057^{+0.038}_{-0.015} \pm 0.005$.

$\Gamma(K^- e^+ \nu_e)/\Gamma(K^- \pi^+)$ Γ_8/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.95 ±0.04 OUR FIT					
0.95 ±0.04 OUR AVERAGE					
0.978±0.027±0.044	2510	[15] BEAN	93C	CLEO	$e^+ e^- \approx \Upsilon(4S)$
0.90 ±0.06 ±0.06	584	CRAWFORD	91B	CLEO	$e^+ e^- \approx$ 10.5 GeV
0.91 ±0.07 ±0.11		ANJOS	89F	E691	Photoproduction

[15] BEAN 93C uses $K^- \mu^+ \nu_\mu$ as well as $K^- e^+ \nu_e$ events and makes a small phase-space adjustment to the number of the μ^+ events to use them as e^+ events.

$\Gamma(K^- \mu^+ \nu_\mu)/\Gamma(K^- \pi^+)$ Γ_9/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.80±0.10 OUR FIT					
0.80±0.10 OUR AVERAGE					
0.82±0.13±0.13	99	FRABETTI	93I	E687	γBe $\overline{E}_\gamma$= 221 GeV
0.79±0.08±0.09	231	CRAWFORD	91B	CLEO	$e^+ e^- \approx$ 10.5 GeV

$\Gamma(K^- \mu^+ \nu_\mu)/\Gamma(\mu^+ \text{anything})$ Γ_9/Γ_2

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.40 ±0.08 OUR AVERAGE Error includes scale factor of 1.6.					
0.472±0.051±0.040	232	KODAMA	94	E653	π^- emulsion 600 GeV
0.32 ±0.05 ±0.05	124	KODAMA	91	EMUL	pA 800 GeV

$\Gamma(K^- \pi^0 e^+ \nu_e)/\Gamma_{\text{total}}$ Γ_{10}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.016^{+0.013}_{-0.005}\pm0.002}$	4	[16] BAI	91	MRK3	$e^+ e^- \approx$ 3.77 GeV

[16] BAI 91 finds that a fraction $0.79^{+0.15}_{-0.17}{}^{+0.09}_{-0.03}$ of combined D^+ and D^0 decays to $\overline{K}\pi e^+ \nu_e$ (24 events) are $\overline{K}^*(892) e^+ \nu_e$.

$\Gamma(\overline{K}^0 \pi^- e^+ \nu_e)/\Gamma_{\text{total}}$ Γ_{11}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.028^{+0.017}_{-0.008}\pm0.003}$	6	[17] BAI	91	MRK3	$e^+ e^- \approx$ 3.77 GeV

[17] BAI 91 finds that a fraction $0.79^{+0.15}_{-0.17}{}^{+0.09}_{-0.03}$ of combined D^+ and D^0 decays to $\overline{K}\pi e^+ \nu_e$ (24 events) are $\overline{K}^*(892) e^+ \nu_e$.

$\Gamma(K^*(892)^- e^+ \nu_e)/\Gamma(K^- e^+ \nu_e)$ Γ_{20}/Γ_8

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.55±0.09 OUR FIT				
0.51±0.18±0.06	CRAWFORD	91B	CLEO	$e^+ e^- \approx$ 10.5 GeV

$\Gamma(K^*(892)^- e^+ \nu_e)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ Γ_{20}/Γ_{23}

Unseen decay modes of the $\overline{K}^*(892)^-$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.37±0.06 OUR FIT					
0.38±0.06±0.03	152	[18] BEAN	93C	CLEO	$e^+ e^- \approx \Upsilon(4S)$

[18] BEAN 93C uses $K^{*-} \mu^+ \nu_\mu$ as well as $K^{*-} e^+ \nu_e$ events and makes a small phase-space adjustment to the number of the μ^+ events to use them as e^+ events.

$\Gamma(K^*(892)^- \ell^+ \nu_\ell)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ Γ_{13}/Γ_{23}

This an average of the $K^*(892)^- e^+ \nu_e$ and $K^*(892)^- \mu^+ \nu_\mu$ ratios. Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.24±0.07±0.06	137	[19] ALEXANDER	90B	CLEO	$e^+ e^-$ 10.5–11 GeV

[19] ALEXANDER 90B cannot exclude extra π^0's in the final state. See nearby data blocks for more detailed results.

$\Gamma(K^- \pi^0 (\pi^0) e^+ \nu_e)/\Gamma_{\text{total}}$ Γ_{14}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.023^{+0.050}_{-0.006}\pm0.001$	1	[20] AGUILAR-...	87F	HYBR	πp, $p p$ 360, 400 GeV

[20] AGUILAR-BENITEZ 87F computes the branching fraction using topological normalization. Does not distinguish presence of a second π^0.

$\Gamma(\overline{K}^0 \pi^- (\pi^0) e^+ \nu_e)/\Gamma_{total}$ — Γ_{15}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.079^{+0.069}_{-0.023}\pm0.005$	3	[21] AGUILAR-... 87F	HYBR	πp, pp 360, 400 GeV

[21] AGUILAR-BENITEZ 87F computes the branching fraction using topological normalization. Does not distinguish presence of a second π^0.

$\Gamma(\overline{K}^*(892)^0 \pi^- e^+ \nu_e)/\Gamma(K^*(892)^- e^+ \nu_e)$ — Γ_{16}/Γ_{20}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.64	90	CRAWFORD 91B	CLEO	$e^+ e^- \approx$ 10.5 GeV

$\Gamma(K^- \pi^+ \pi^- \mu^+ \nu_\mu)/\Gamma(K^- \mu^+ \nu_\mu)$ — Γ_{17}/Γ_9

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.037	90	KODAMA 93B	E653	π^- emulsion 600 GeV

$\Gamma((\overline{K}^*(892)\pi)^- \mu^+ \nu_\mu)/\Gamma(K^- \mu^+ \nu_\mu)$ — Γ_{18}/Γ_9

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.043	90	[22] KODAMA 93B	E653	π^- emulsion 600 GeV

[22] KODAMA 93B searched in $K^- \pi^+ \pi^- \mu^+ \nu_\mu$, but the limit includes other $(\overline{K}^*(892)\pi)^-$ charge states.

$\Gamma(\pi^- e^+ \nu_e)/\Gamma_{total}$ — Γ_{19}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
$\mathbf{0.0039^{+0.0023}_{-0.0011}\pm0.0004}$	7	[23] ADLER 89	MRK3	$e^+ e^-$ 3.77 GeV

[23] Experiment gives $|V_{cd}/V_{cs}|^2 = 0.057^{+0.038}_{-0.015} \pm 0.005$.

Hadronic modes with one or three K's

$\Gamma(K^- \pi^+)/\Gamma_{total}$ — Γ_{21}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.0384±0.0013 OUR FIT				
0.0386±0.0014 OUR AVERAGE				
0.045 ±0.006 ±0.004		[24] ALBRECHT 94	ARG	$e^+ e^- \approx \Upsilon(4S)$
0.0341±0.0012±0.0028	1173	[25] ALBRECHT 94F	ARG	$e^+ e^- \approx \Upsilon(4S)$
0.0391±0.0008±0.0017	4208	[25,26] AKERIB 93	CLEO	$e^+ e^- \approx \Upsilon(4S)$
0.0362±0.0034±0.0044		[25] DECAMP 91J	ALEP	From Z decays
0.045 ±0.008 ±0.005	56	[25] ABACHI 88	HRS	$e^+ e^-$ 29 GeV
0.042 ±0.004 ±0.004	930	ADLER 88C	MRK3	$e^+ e^-$ 3.77 GeV
0.041 ±0.006	263	[27] SCHINDLER 81	MRK2	$e^+ e^-$ 3.771 GeV
0.043 ±0.010	130	[28] PERUZZI 77	MRK1	$e^+ e^-$ 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.0404^{+0.0040}_{-0.0035}$		[29] BARLAG 92C	ACCM	π^- Cu 230 GeV
$0.040^{+0.021}_{-0.010}\pm0.002$	7	[29] AGUILAR-... 87F	HYBR	πp, pp 360, 400 GeV

[24] ALBRECHT 94 uses D^0 mesons from $\overline{B}^0 \rightarrow D^{*+} \ell^- \overline{\nu}_\ell$ decays. This is a different set of events than used by ALBRECHT 94F.

[25] ABACHI 88, DECAMP 91J, AKERIB 93, and ALBRECHT 94F use $D^*(2010)^+ \rightarrow D^0 \pi^+$ decays. The π^+ is both slow and of low p_T with respect to the event thrust axis ($\approx D^{*+}$ direction). The excess number of such π^+'s over background gives the number of $D^*(2010)^+ \rightarrow D^0 \pi^+$ events, and the fraction with $D^0 \rightarrow K^- \pi^+$ gives the $D^0 \rightarrow K^- \pi^+$ branching fraction.

[26] Radiative corrections increase this AKERIB 93 value to 0.0395 ± 0.0008 ± 0.0017.

[27] SCHINDLER 81 (MARK-2) measures $\sigma(e^+ e^- \rightarrow \psi(3770)) \times$ branching fraction to be 0.24 ± 0.02. We use the MARK-3 (ADLER 88C) value of $\sigma = 5.8 \pm 0.5 \pm 0.6$ nb.

[28] PERUZZI 77 (MARK-1) measures $\sigma(e^+ e^- \rightarrow \psi(3770)) \times$ branching fraction to be 0.25 ± 0.05. We use the MARK-3 (ADLER 88C) value of $\sigma = 5.8 \pm 0.5 \pm 0.6$ nb.

[29] AGUILAR-BENITEZ 87F and BARLAG 92C compute the branching fraction using topological normalization.

$\Gamma(\overline{K}^0 \pi^0)/\Gamma(K^- \pi^+)$ — Γ_{22}/Γ_{21}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.54±0.06 OUR FIT Error includes scale factor of 1.1.				
1.36±0.23±0.22	119	ANJOS 92B	E691	γBe 80–240 GeV

$\Gamma(\overline{K}^0\pi^0)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{22}/Γ_{23}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.389±0.031 OUR FIT				
0.378±0.033 OUR AVERAGE				
0.44 ±0.02 ±0.05	1942	PROCARIO 93B	CLEO	e^+e^- 10.36–10.7 GeV
0.34 ±0.04 ±0.02	92	[30] ALBRECHT 92P	ARG	$e^+e^- \approx$ 10 GeV
0.36 ±0.04 ±0.08	104	KINOSHITA 91	CLEO	$e^+e^- \sim$ 10.7 GeV

[30] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(\overline{K}^0\pi^+\pi^-)/\Gamma_{total}$ — Γ_{23}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.054 ±0.004 OUR FIT Error includes scale factor of 1.2.				
0.055 ±0.005 OUR AVERAGE				
0.0503±0.0039±0.0049	284	[31] ALBRECHT 94F	ARG	$e^+e^- \approx \Upsilon(4S)$
0.064 ±0.005 ±0.010		ADLER 87	MRK3	e^+e^- 3.77 GeV
0.052 ±0.016	32	[32] SCHINDLER 81	MRK2	e^+e^- 3.771 GeV
0.079 ±0.023	28	[33] PERUZZI 77	MRK1	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.0427^{+0.0102}_{-0.0096}$		[34] BARLAG 92C	ACCM	π^- Cu 230 GeV
$0.045\ ^{+0.059}_{-0.014}\ \pm0.003$	2	[34] AGUILAR-... 87F	HYBR	πp, pp 360, 400 GeV

[31] See the footnote on the ALBRECHT 94F measurement of $\Gamma(K^-\pi^+)/\Gamma_{total}$ for the method used.

[32] SCHINDLER 81 (MARK-2) measures $\sigma(e^+e^- \rightarrow \psi(3770)) \times$ branching fraction to be 0.30 ± 0.08. We use the MARK-3 (ADLER 88C) value of $\sigma = 5.8 \pm 0.5 \pm 0.6$ nb.

[33] PERUZZI 77 (MARK-1) measures $\sigma(e^+e^- \rightarrow \psi(3770)) \times$ branching fraction to be 0.46 ± 0.12. We use the MARK-3 (ADLER 88C) value of $\sigma = 5.8 \pm 0.5 \pm 0.6$ nb.

[34] AGUILAR-BENITEZ 87F and BARLAG 92C compute the branching fraction using topological normalization.

$\Gamma(\overline{K}^0\pi^+\pi^-)/\Gamma(K^-\pi^+)$ — Γ_{23}/Γ_{21}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
1.40±0.11 OUR FIT Error includes scale factor of 1.2.				
1.65±0.17 OUR AVERAGE				
1.61±0.10±0.15	856	FRABETTI 94J	E687	γBe $\overline{E}_\gamma$=220 GeV
1.7 ±0.8	35	AVERY 80	SPEC	$\gamma N \rightarrow D^{*+}$
2.8 ±1.0	116	PICCOLO 77	MRK1	e^+e^- 4.03, 4.41 GeV

$\Gamma(\overline{K}^0\rho^0)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{24}/Γ_{23}

VALUE	DOCUMENT ID	TECN	COMMENT
0.223±0.027 OUR AVERAGE Error includes scale factor of 1.2.			
0.350±0.028±0.067	FRABETTI 94G	E687	γBe $\overline{E}_\gamma$=220 GeV
0.227±0.032±0.009	ALBRECHT 93D	ARG	$e^+e^- \approx$ 10 GeV
0.215±0.051±0.037	ANJOS 93	E691	γBe 90–260 GeV
0.20 ±0.06 ±0.03	FRABETTI 92B	E687	γBe $\overline{E}_\gamma$= 221 GeV
0.12 ±0.01 ±0.07	ADLER 87	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0 f_0(980))/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{74}/Γ_{23}

Unseen decay modes of the $f_0(980)$ are included.

VALUE	DOCUMENT ID	TECN	COMMENT
0.105±0.029 OUR AVERAGE			
0.131±0.031±0.034	FRABETTI 94G	E687	γBe $\overline{E}_\gamma$=220 GeV
0.088±0.035±0.012	ALBRECHT 93D	ARG	$e^+e^- \approx$ 10 GeV

$\Gamma(\overline{K}^0 f_2(1270))/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{78}/Γ_{23}

Unseen decay modes of the $f_2(1270)$ are included.

VALUE	DOCUMENT ID	TECN	COMMENT
0.076±0.028 OUR AVERAGE			
0.065±0.025±0.030	FRABETTI 94G	E687	γBe $\overline{E}_\gamma$=220 GeV
0.088±0.037±0.014	ALBRECHT 93D	ARG	$e^+e^- \approx$ 10 GeV

$\Gamma(\overline{K}^0 f_0(1300))/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{79}/Γ_{23}

Unseen decay modes of the $f_0(1300)$ are included.

VALUE	DOCUMENT ID	TECN	COMMENT
0.13 ±0.04 OUR AVERAGE			
0.123±0.035±0.049	FRABETTI 94G	E687	γBe $\overline{E}_\gamma$=220 GeV
0.131±0.045±0.021	ALBRECHT 93D	ARG	$e^+e^- \approx$ 10 GeV

$\Gamma(K^*(892)^-\pi^+)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{81}/Γ_{23}

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.93 ±0.04 OUR FIT Error includes scale factor of 1.1.					
0.96 ±0.04 OUR AVERAGE					
$0.938\pm0.054\pm0.038$		FRABETTI	94G	E687	γ Be $\overline{E}_\gamma$=220 GeV
$1.08 \pm0.063\pm0.045$		ALBRECHT	93D	ARG	$e^+e^-\approx$ 10 GeV
$0.720\pm0.145\pm0.185$		ANJOS	93	E691	γ Be 90–260 GeV
$0.96 \pm0.12 \pm0.075$		FRABETTI	92B	E687	γ Be $\overline{E}_\gamma$= 221 GeV
$0.84 \pm0.06 \pm0.08$		ADLER	87	MRK3	e^+e^- 3.77 GeV
$1.05\ ^{+0.23}_{-0.26}\ ^{+0.07}_{-0.09}$	25	SCHINDLER	81	MRK2	e^+e^- 3.771 GeV

$\Gamma(K_0^*(1430)^-\pi^+)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{103}/Γ_{23}

Unseen decay modes of the $\overline{K}_0^*(1430)^-$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.18 ±0.04 OUR AVERAGE				
$0.164\pm0.041\pm0.044$	FRABETTI	94G	E687	γ Be $\overline{E}_\gamma$=220 GeV
$0.208\pm0.055\pm0.034$	ALBRECHT	93D	ARG	$e^+e^-\approx$ 10 GeV

$\Gamma(K_2^*(1430)^-\pi^+)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{104}/Γ_{23}

Unseen decay modes of the $\overline{K}_2^*(1430)^-$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.15	90	ALBRECHT	93D	ARG	$e^+e^-\approx$ 10 GeV

$\Gamma(\overline{K}^0\pi^+\pi^-$ nonresonant$)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{30}/Γ_{23}

VALUE	DOCUMENT ID		TECN	COMMENT
0.27 ±0.04 OUR AVERAGE				
$0.263\pm0.024\pm0.041$	ANJOS	93	E691	γ Be 90–260 GeV
$0.26 \pm0.08 \pm0.05$	FRABETTI	92B	E687	γ Be $\overline{E}_\gamma$= 221 GeV
$0.33 \pm0.05 \pm0.10$	ADLER	87	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^-\pi^+\pi^0)/\Gamma_{total}$ — Γ_{31}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.135 ±0.011 OUR FIT Error includes scale factor of 1.3.					
0.131 ±0.016 OUR AVERAGE					
$0.133 \pm0.012 \pm0.013$	931	ADLER	88C	MRK3	e^+e^- 3.77 GeV
0.117 ± 0.043	37	[35] SCHINDLER	81	MRK2	e^+e^- 3.771 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.0912^{+0.0173}_{-0.0165}$		[36] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.106\ ^{+0.061}_{-0.028}\ \pm0.006$	5	[36] AGUILAR-...	87F	HYBR	πp, $p p$ 360, 400 GeV

[35] SCHINDLER 81 (MARK-2) measures $\sigma(e^+e^- \rightarrow \psi(3770)) \times$ branching fraction to be 0.68 ± 0.23. We use the MARK-3 (ADLER 88C) value of $\sigma = 5.8 \pm 0.5 \pm 0.6$ nb.

[36] AGUILAR-BENITEZ 87F and BARLAG 92C compute the branching fraction using topological normalization.

$\Gamma(K^-\pi^+\pi^0)/\Gamma(K^-\pi^+)$ — Γ_{31}/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
3.51±0.28 OUR FIT Error includes scale factor of 1.3.					
3.07±0.29 OUR AVERAGE					
$3.04\pm0.16\pm0.34$	931	[37] ALBRECHT	92P	ARG	$e^+e^-\approx$ 10 GeV
$4.0 \pm0.9 \pm1.0$	69	ALVAREZ	91B	NA14	Photoproduction
$2.8 \pm0.14\pm0.52$	1050	KINOSHITA	91	CLEO	$e^+e^-\sim$ 10.7 GeV
4.2 ± 1.4	41	SUMMERS	84	E691	Photoproduction

[37] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(K^-\rho^+)/\Gamma(K^-\pi^+\pi^0)$ — Γ_{32}/Γ_{31}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.76 ±0.05 OUR AVERAGE Error includes scale factor of 1.3. See the ideogram below.					
$0.765\pm0.041\pm0.054$		FRABETTI	94G	E687	γ Be $\overline{E}_\gamma$=220 GeV
$0.647\pm0.039\pm0.150$		ANJOS	93	E691	γ Be 90–260 GeV
$0.81 \pm0.03 \pm0.06$		ADLER	87	MRK3	e^+e^- 3.77 GeV
$0.31\ ^{+0.20}_{-0.14}$	13	SUMMERS	84	E691	Photoproduction
$0.85\ ^{+0.11}_{-0.15}\ ^{+0.09}_{-0.10}$	31	SCHINDLER	81	MRK2	e^+e^- 3.771 GeV

$\Gamma\left(K^- \rho^+\right)/\Gamma\left(K^- \pi^+ \pi^0\right)$

$\Gamma\left(K^*(892)^- \pi^+\right)/\Gamma\left(K^- \pi^+ \pi^0\right)$ — Γ_{81}/Γ_{31}

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.37 ±0.04 OUR FIT Error includes scale factor of 1.4.				
0.28 ±0.04 OUR AVERAGE				
0.444±0.084±0.147	FRABETTI	94G	E687	γ Be $\overline{E}_\gamma$=220 GeV
0.252±0.033±0.035	ANJOS	93	E691	γ Be 90–260 GeV
0.36 ±0.06 ±0.09	ADLER	87	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma\left(\overline{K}^*(892)^0 \pi^0\right)/\Gamma\left(K^- \pi^+ \pi^0\right)$ — Γ_{82}/Γ_{31}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.227±0.027 OUR FIT				
0.221±0.029 OUR AVERAGE				
0.248±0.047±0.023	FRABETTI	94G	E687	γ Be $\overline{E}_\gamma$=220 GeV
0.213±0.027±0.035	ANJOS	93	E691	γ Be 90–260 GeV
0.20 ±0.03 ±0.05	ADLER	87	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma\left(K^- \pi^+ \pi^0 \text{ nonresonant}\right)/\Gamma\left(K^- \pi^+ \pi^0\right)$ — Γ_{35}/Γ_{31}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.049±0.018 OUR AVERAGE Error includes scale factor of 1.1.					
0.101±0.033±0.040		FRABETTI	94G	E687	γ Be $\overline{E}_\gamma$=220 GeV
0.036±0.004±0.018		ANJOS	93	E691	γ Be 90–260 GeV
0.09 ±0.02 ±0.04		ADLER	87	MRK3	$e^+ e^-$ 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.51 ±0.22	21	SUMMERS	84	E691	Photoproduction

$\Gamma\left(\overline{K}^*(892)^0 \pi^0\right)/\Gamma\left(\overline{K}^0 \pi^0\right)$ — Γ_{82}/Γ_{22}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.47±0.23 OUR FIT Error includes scale factor of 1.1.					
$\mathbf{1.65^{+0.39}_{-0.31}\pm0.20}$	122	PROCARIO	93B	CLEO	$\overline{K}^0 \pi^0 \pi^0$ Dalitz plot

$\Gamma\left(\overline{K}_2^*(1430)^0 \pi^0\right)/\Gamma\left(\overline{K}^*(892)^0 \pi^0\right)$ — Γ_{105}/Γ_{82}

Unseen decay modes of the $\overline{K}_2^*(1430)^0$ and $\overline{K}^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.12	90	PROCARIO	93B	CLEO	$\overline{K}^0 \pi^0 \pi^0$ Dalitz plot

$\Gamma(\overline{K}^0\pi^0\pi^0$ nonresonant$)/\Gamma(\overline{K}^0\pi^0)$ Γ_{38}/Γ_{22}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.37±0.08±0.04	76	PROCARIO	93B	CLEO	$\overline{K}^0\pi^0\pi^0$ Dalitz plot

$\Gamma(K^-\pi^+\pi^+\pi^-)/\Gamma_{total}$ Γ_{39}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.075 ±0.004 OUR FIT Error includes scale factor of 1.1.					
0.075 ±0.006 OUR AVERAGE Error includes scale factor of 1.3. See the ideogram below.					
0.079 ±0.015 ±0.009		[38] ALBRECHT	94	ARG	$e^+e^-\approx \Upsilon(4S)$
0.0680±0.0027±0.0057	1430	[39] ALBRECHT	94F	ARG	$e^+e^-\approx \Upsilon(4S)$
0.091 ±0.008 ±0.008	992	ADLER	88C	MRK3	e^+e^- 3.77 GeV
0.117 ±0.025	185	[40] SCHINDLER	81	MRK2	e^+e^- 3.771 GeV
0.062 ±0.019	44	[41] PERUZZI	77	MRK1	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.0844^{+0.0064}_{-0.0053}$		[42] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.065\ ^{+0.017}_{-0.011}$ ±0.019	13	[42] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV

[38] ALBRECHT 94 uses D^0 mesons from $\overline{B}^0 \rightarrow D^{*+}\ell^-\overline{\nu}_\ell$ decays. This is a different set of events than used by ALBRECHT 94F.

[39] See the footnote on the ALBRECHT 94F measurement of $\Gamma(K^-\pi^+)/\Gamma_{total}$ for the method used.

[40] SCHINDLER 81 (MARK-2) measures $\sigma(e^+e^- \rightarrow \psi(3770)) \times$ branching fraction to be 0.68 ± 0.11. We use the MARK-3 (ADLER 88C) value of σ = 5.8 ± 0.5 ± 0.6 nb.

[41] PERUZZI 77 (MARK-1) measures $\sigma(e^+e^- \rightarrow \psi(3770)) \times$ branching fraction to be 0.36 ± 0.10. We use the MARK-3 (ADLER 88C) value of σ = 5.8 ± 0.5 ± 0.6 nb.

[42] AGUILAR-BENITEZ 87F and BARLAG 92C compute the branching fraction using topological normalization.

$\Gamma\left(K^-\pi^+\pi^+\pi^-\right)/\Gamma_{total}$

$\Gamma(K^-\pi^+\pi^+\pi^-)/\Gamma(K^-\pi^+)$ Γ_{39}/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.96±0.10 OUR FIT					
2.01±0.13 OUR AVERAGE					
1.7 ±0.2 ±0.2	1745	ANJOS	92C	E691	γBe 90–260 GeV
1.90±0.25±0.20	337	ALVAREZ	91B	NA14	Photoproduction
2.12±0.16±0.09		BORTOLETTO	88	CLEO	e^+e^- 10.55 GeV
2.0 ±0.9	48	BAILEY	86	ACCM	π^- Be fixed target
2.17±0.28±0.23		ALBRECHT	85F	ARG	e^+e^- 10 GeV
2.0 ±1.0	10	BAILEY	83B	SPEC	π^- Be $\rightarrow D^0$
2.2 ±0.8	214	PICCOLO	77	MRK1	e^+e^- 4.03, 4.41 GeV

$\Gamma(K^- \pi^+ \rho^0 \text{total})/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{40}/Γ_{39}

This includes $K^- a_1(1260)^+$, $\overline{K}^*(892)^0 \rho^0$, etc. The next entry gives the specifically 3-body fraction. We rely on the MARK III and E691 full amplitude analyses of the $K^- \pi^+ \pi^+ \pi^-$ channel for values of the resonant substructure.

VALUE	DOCUMENT ID		TECN	COMMENT
0.835±0.035 OUR AVERAGE				
0.80 ±0.03 ±0.05	ANJOS	92C	E691	γBe 90–260 GeV
0.855±0.032±0.030	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.98 ±0.12 ±0.10	ALVAREZ	91B	NA14	Photoproduction

$\Gamma(K^- \pi^+ \rho^0 \text{3-body})/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{41}/Γ_{39}

We rely on the MARK III and E691 full amplitude analyses of the $K^- \pi^+ \pi^+ \pi^-$ channel for values of the resonant substructure.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.063±0.028 OUR AVERAGE					
0.05 ±0.03 ±0.02		ANJOS	92C	E691	γBe 90–260 GeV
0.084±0.022±0.04		COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.77 ±0.06 ±0.06		[43] ALVAREZ	91B	NA14	Photoproduction
0.85 $^{+0.11}_{-0.22}$	180	PICCOLO	77	MRK1	$e^+ e^-$ 4.03, 4.41 GeV

[43] This value is for ρ^0 $(K^- \pi^+)$-nonresonant. ALVAREZ 91B cannot determine what fraction of this is $K^- a_1(1260)^+$.

$\Gamma(\overline{K}^*(892)^0 \rho^0)/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{87}/Γ_{39}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included. We rely on the MARK III and E691 full amplitude analyses of the $K^- \pi^+ \pi^+ \pi^-$ channel for values of the resonant substructure.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.195±0.03±0.03		ANJOS	92C	E691	γBe 90–260 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.34 ±0.09±0.09		ALVAREZ	91B	NA14	Photoproduction
0.75 ±0.3	5	BAILEY	83B	SPEC	πBe $\rightarrow$ D^0
0.15 $^{+0.16}_{-0.15}$	20	PICCOLO	77	MRK1	$e^+ e^-$ 4.03, 4.41 GeV

$\Gamma(\overline{K}^*(892)^0 \rho^0 \text{transverse})/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{88}/Γ_{39}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.20 ±0.07 OUR FIT				
0.213±0.024±0.075	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(\overline{K}^*(892)^0 \rho^0 \text{ S-wave})/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{89}/Γ_{39}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.375±0.045±0.06	ANJOS	92C	E691	γBe 90–260 GeV

$\Gamma(\overline{K}^*(892)^0 \rho^0 \text{ S-wave long.})/\Gamma_{\text{total}}$ — Γ_{90}/Γ

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.003	90	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(\overline{K}^*(892)^0 \rho^0 \text{ P-wave})/\Gamma_{\text{total}}$ — Γ_{91}/Γ

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.003	90	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.009	90	ANJOS	92C	E691	γBe 90–260 GeV

$\Gamma(\overline{K}^*(892)^0 \rho^0 \text{ D-wave})/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{92}/Γ_{39}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.255±0.045±0.06	ANJOS	92C	E691	γBe 90–260 GeV

$\Gamma(\overline{K}^*(892)^0 f_0(980))/\Gamma_{total}$ — Γ_{98}/Γ

Unseen decay modes of the $\overline{K}^*(892)^0$ and $f_0(980)$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.007	90	ANJOS	92C	E691	γBe 90–260 GeV

$\Gamma(K^- a_1(1260)^+)/\Gamma(K^-\pi^+\pi^+\pi^-)$ — Γ_{76}/Γ_{39}

Unseen decay modes of the $a_1(1260)^+$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.97 ±0.14 OUR AVERAGE				
0.94 ±0.13 ±0.20	ANJOS	92C	E691	γBe 90–260 GeV
0.984±0.048±0.16	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^- a_2(1320)^+)/\Gamma_{total}$ — Γ_{80}/Γ

Unseen decay modes of the $a_2(1320)^+$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.002	90	ANJOS	92C	E691	γBe 90–260 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.006	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K_1(1270)^-\pi^+)/\Gamma(K^-\pi^+\pi^+\pi^-)$ — Γ_{99}/Γ_{39}

Unseen decay modes of the $K_1(1270)^-$ are included. The two experiments disagree considerably here.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
0.14 ±0.04 OUR FIT					
0.194±0.056±0.088		COFFMAN	92B	MRK3	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.013	90	ANJOS	92C	E691	γBe 90–260 GeV

$\Gamma(K_1(1400)^-\pi^+)/\Gamma_{total}$ — Γ_{100}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.012	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^*(1410)^-\pi^+)/\Gamma_{total}$ — Γ_{102}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.012	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^-$ total$)/\Gamma(K^-\pi^+\pi^+\pi^-)$ — Γ_{83}/Γ_{39}

This includes $\overline{K}^*(892)^0\rho^0$, *etc.* The next entry gives the specifically 3-body fraction. Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.30±0.06±0.03	ANJOS	92C	E691	γBe 90–260 GeV

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^-$ 3-body$)/\Gamma(K^-\pi^+\pi^+\pi^-)$ — Γ_{84}/Γ_{39}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.19 ±0.04 OUR FIT				
0.18 ±0.04 OUR AVERAGE				
0.165±0.03 ±0.045	ANJOS	92C	E691	γBe 90–260 GeV
0.210±0.027±0.06	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^-\pi^+ f_0(980))/\Gamma_{total}$ — Γ_{97}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.011	90	ANJOS	92C	E691	γBe 90–260 GeV

$\Gamma(K^-\pi^+\pi^+\pi^-$ nonresonant$)/\Gamma(K^-\pi^+\pi^+\pi^-)$ — Γ_{47}/Γ_{39}

VALUE	DOCUMENT ID		TECN	COMMENT
0.233±0.032 OUR AVERAGE				
0.23 ±0.02 ±0.03	ANJOS	92C	E691	γBe 90–260 GeV
0.242±0.025±0.06	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0\pi^+\pi^-\pi^0)/\Gamma_{total}$ — Γ_{48}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.099±0.012 OUR FIT					
0.103±0.022±0.025	140	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.134^{+0.032}_{-0.033}$		[44] BARLAG	92C	ACCM	π^- Cu 230 GeV

[44] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(\overline{K}^0\pi^+\pi^-\pi^0)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{48}/Γ_{23}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
1.85±0.20 OUR FIT				
1.86±0.23 OUR AVERAGE				
1.80±0.20±0.21	190	[45] ALBRECHT 92P	ARG	$e^+e^- \approx$ 10 GeV
2.8 ±0.8 ±0.8	46	ANJOS 92C	E691	γBe 90–260 GeV
1.85±0.26±0.30	158	KINOSHITA 91	CLEO	$e^+e^- \sim$ 10.7 GeV

[45] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(\overline{K}^0\eta)/\Gamma(K^-\pi^+)$ — Γ_{69}/Γ_{21}

Unseen decay modes of the η are included.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.64	90	ALBRECHT 89D	ARG	e^+e^- 10 GeV

$\Gamma(\overline{K}^0\eta)/\Gamma(\overline{K}^0\pi^0)$ — Γ_{69}/Γ_{22}

Unseen decay modes of the η are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.33±0.04 OUR FIT				
0.32±0.04±0.03	225	PROCARIO 93B	CLEO	$\eta \to \gamma\gamma$

$\Gamma(\overline{K}^0\eta)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{69}/Γ_{23}

Unseen decay modes of the η are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.130±0.017 OUR FIT				
0.14 ±0.02 ±0.02	80	PROCARIO 93B	CLEO	$\eta \to \pi^+\pi^-\pi^0$

$\Gamma(\overline{K}^0\omega)/\Gamma(K^-\pi^+)$ — Γ_{72}/Γ_{21}

Unseen decay modes of the ω are included.

VALUE	DOCUMENT ID	TECN	COMMENT
0.53±0.09 OUR FIT			
1.00±0.36±0.20	ALBRECHT 89D	ARG	e^+e^- 10 GeV

$\Gamma(\overline{K}^0\omega)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{72}/Γ_{23}

Unseen decay modes of the ω are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.38±0.07 OUR FIT				
0.33±0.09 OUR AVERAGE Error includes scale factor of 1.1.				
0.29±0.08±0.05	16	[46] ALBRECHT 92P	ARG	$e^+e^- \approx$ 10 GeV
0.54±0.14±0.16	40	KINOSHITA 91	CLEO	$e^+e^- \sim$ 10.7 GeV

[46] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(\overline{K}^0\omega)/\Gamma(\overline{K}^0\pi^+\pi^-\pi^0)$ — Γ_{72}/Γ_{48}

Unseen decay modes of the ω are included.

VALUE	DOCUMENT ID	TECN	COMMENT
0.21 ±0.04 OUR FIT			
0.220±0.048±0.0116	COFFMAN 92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0\eta'(958))/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{73}/Γ_{23}

Unseen decay modes of the $\eta'(958)$ are included.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.32±0.04 OUR AVERAGE				
0.31±0.02±0.04	594	PROCARIO 93B	CLEO	$\eta' \to \eta\pi^+\pi^-$, $\rho^0\gamma$
0.37±0.13±0.06	18	[47] ALBRECHT 92P	ARG	$e^+e^- \approx$ 10 GeV

[47] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(K^*(892)^-\rho^+)/\Gamma(\overline{K}^0\pi^+\pi^-\pi^0)$ — Γ_{93}/Γ_{48}

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	DOCUMENT ID	TECN	COMMENT
0.606±0.188±0.126	COFFMAN 92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^*(892)^-\rho^+\ \text{longitudinal})/\Gamma(\overline{K}^0\pi^+\pi^-\pi^0)$ — Γ_{94}/Γ_{48}

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	DOCUMENT ID	TECN	COMMENT
0.290±0.111	COFFMAN 92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^*(892)^- \rho^+ \text{transverse})/\Gamma(\overline{K}^0 \pi^+ \pi^- \pi^0)$ — Γ_{95}/Γ_{48}

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.317±0.180	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(K^*(892)^- \rho^+ P\text{-wave})/\Gamma_{\text{total}}$ — Γ_{96}/Γ

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.015	90	[48] COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

[48] Obtained using other $\overline{K}^*(892)\rho$ P-wave limits and isospin relations.

$\Gamma(\overline{K}^*(892)^0 \rho^0 \text{transverse})/\Gamma(\overline{K}^0 \pi^+ \pi^- \pi^0)$ — Γ_{88}/Γ_{48}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.15 ±0.06 OUR FIT				
0.126±0.111	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(\overline{K}^0 a_1(1260)^0)/\Gamma_{\text{total}}$ — Γ_{77}/Γ

Unseen decay modes of the $a_1(1260)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.019	90	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(K_1(1270)^- \pi^+)/\Gamma(\overline{K}^0 \pi^+ \pi^- \pi^0)$ — Γ_{99}/Γ_{48}

Unseen decay modes of the $K_1(1270)^-$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.106±0.028 OUR FIT				
0.10 ±0.03	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(\overline{K}_1(1400)^0 \pi^0)/\Gamma_{\text{total}}$ — Γ_{101}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.037	90	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(\overline{K}^*(892)^0 \pi^+ \pi^- \text{3-body})/\Gamma(\overline{K}^0 \pi^+ \pi^- \pi^0)$ — Γ_{84}/Γ_{48}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.14 ±0.04 OUR FIT Error includes scale factor of 1.1.				
0.191±0.105	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(\overline{K}^0 \pi^+ \pi^- \pi^0 \text{nonresonant})/\Gamma(\overline{K}^0 \pi^+ \pi^- \pi^0)$ — Γ_{55}/Γ_{48}

VALUE	DOCUMENT ID		TECN	COMMENT
0.210±0.147±0.150	COFFMAN	92B	MRK3	$e^+ e^-$ 3.77 GeV

$\Gamma(K^- \pi^+ \pi^0 \pi^0)/\Gamma_{\text{total}}$ — Γ_{56}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.149±0.037±0.030	24	[49] ADLER	88C	MRK3	$e^+ e^-$ 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.177±0.029		[50] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.209^{+0.074}_{-0.043}\pm0.012$	9	[50] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV

[49] ADLER 88C uses an absolute normalization method finding this decay channel opposite a detected $\overline{D}^0 \rightarrow K^+ \pi^-$ in pure $D\overline{D}$ events.

[50] AGUILAR-BENITEZ 87F and BARLAG 92C compute the branching fraction using topological normalization. They do not distinguish the presence of a third π^0, and thus are not included in the average.

$\Gamma(K^- \pi^+ \pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$ — Γ_{57}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.0293^{+0.0051}_{-0.0045}$	[51] BARLAG	92C	ACCM	π^- Cu 230 GeV

[51] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(K^- \pi^+ \pi^+ \pi^- \pi^0)/\Gamma(K^- \pi^+)$ — Γ_{57}/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.06±0.10 OUR FIT					
0.98±0.11±0.11	225	[52] ALBRECHT	92P	ARG	$e^+ e^- \approx$ 10 GeV

[52] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(K^-\pi^+\pi^+\pi^-\pi^0)/\Gamma(K^-\pi^+\pi^+\pi^-)$ Γ_{57}/Γ_{39}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.54±0.05 OUR FIT					
0.56±0.07 OUR AVERAGE					
$0.55\pm0.07^{+0.12}_{-0.09}$	167	KINOSHITA	91	CLEO	$e^+e^-\sim10.7$ GeV
0.57±0.06±0.05	180	ANJOS	90D	E691	Photoproduction

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^-\pi^0)/\Gamma(K^-\pi^+\pi^+\pi^-\pi^0)$ Γ_{106}/Γ_{57}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.45±0.15±0.15	ANJOS	90D	E691	Photoproduction

$\Gamma(\overline{K}^*(892)^0\eta)/\Gamma(K^-\pi^+)$ Γ_{107}/Γ_{21}

Unseen decay modes of the $\overline{K}^*(892)^0$ and η are included.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
0.47±0.12 OUR FIT						
$\mathbf{0.58\pm0.19^{+0.24}_{-0.28}}$		46	KINOSHITA	91	CLEO	$e^+e^-\sim10.7$ GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.70	90		ALBRECHT	89D	ARG	e^+e^- 10 GeV

$\Gamma(\overline{K}^*(892)^0\eta)/\Gamma(K^-\pi^+\pi^0)$ Γ_{107}/Γ_{31}

Unseen decay modes of the $\overline{K}^*(892)^0$ and η are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.135±0.034 OUR FIT					
0.13 ±0.02 ±0.03	214	PROCARIO	93B	CLEO	$\overline{K}^*\to K^-\pi^+$, $\eta\to\gamma\gamma$

$\Gamma(\overline{K}^*(892)^0\eta)/\Gamma(K^-\pi^+\pi^+\pi^-\pi^0)$ Γ_{107}/Γ_{57}

Unseen decay modes of the $\overline{K}^*(892)^0$ and η are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.27	90	[53] ANJOS	90D	E691	Photoproduction

[53] Recovered from the published limit, $\Gamma(\overline{K}^*(892)^0\eta)/\Gamma_{total}$, in order to make our normalization consistent.

$\Gamma(K^-\pi^+\omega)/\Gamma(K^-\pi^+)$ Γ_{108}/Γ_{21}

Unseen decay modes of the ω are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.78±0.12±0.10	99	[54] ALBRECHT	92P	ARG	$e^+e^-\approx$ 10 GeV

[54] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(\overline{K}^*(892)^0\omega)/\Gamma(K^-\pi^+)$ Γ_{109}/Γ_{21}

Unseen decay modes of the $\overline{K}^*(892)^0$ and ω are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.28±0.11±0.04	17	[55] ALBRECHT	92P	ARG	$e^+e^-\approx$ 10 GeV

[55] This value is calculated from numbers in Table 1 of ALBRECHT 92P.

$\Gamma(\overline{K}^*(892)^0\omega)/\Gamma(K^-\pi^+\pi^+\pi^-\pi^0)$ Γ_{109}/Γ_{57}

Unseen decay modes of the $\overline{K}^*(892)^0$ and ω are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.44	90	[56] ANJOS	90D	E691	Photoproduction

[56] Recovered from the published limit, $\Gamma(\overline{K}^*(892)^0\omega)/\Gamma_{total}$, in order to make our normalization consistent.

$\Gamma(K^-\pi^+\eta'(958))/\Gamma(K^-\pi^+\pi^+\pi^-)$ Γ_{110}/Γ_{39}

Unseen decay modes of the $\eta'(958)$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.093±0.014±0.019	286	PROCARIO	93B	CLEO	$\eta'\to\eta\pi^+\pi^-$, $\rho^0\gamma$

$\Gamma(\overline{K}^*(892)^0\eta'(958))/\Gamma(K^-\pi^+\eta'(958))$ $\Gamma_{111}/\Gamma_{110}$

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN
<0.15	90	PROCARIO	93B	CLEO

$\Gamma(\overline{K}^0\pi^+\pi^+\pi^-\pi^-)/\Gamma_{total}$ Γ_{62}/Γ

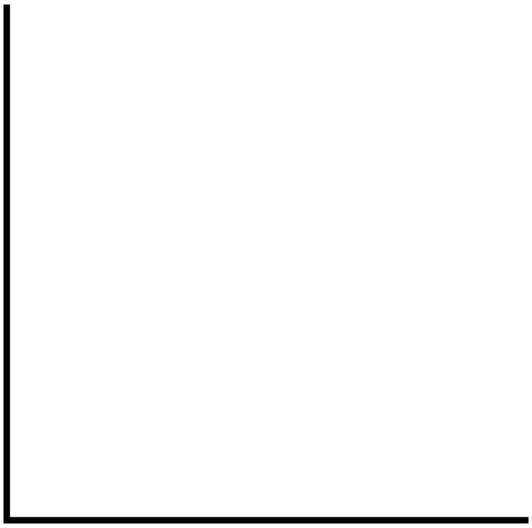
VALUE	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.0124^{+0.0034}_{-0.0032}$	[57] BARLAG	92C ACCM	π^- Cu 230 GeV

[57] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(\overline{K}^0\pi^+\pi^+\pi^-\pi^-)/\Gamma(\overline{K}^0\pi^+\pi^-)$ Γ_{62}/Γ_{23}

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.107±0.029 OUR AVERAGE		Error includes scale factor of 1.8. See the ideogram below.		
0.07 ±0.02 ±0.01	11	[58] ALBRECHT	92P ARG	$e^+e^- \approx$ 10 GeV
0.149±0.026	56	AMMAR	91 CLEO	$e^+e^- \approx$ 10.5 GeV
0.18 ±0.07 ±0.04	6	ANJOS	90D E691	Photoproduction

[58] This value is calculated from numbers in Table 1 of ALBRECHT 92P.



$\Gamma(\overline{K}^0\pi^+\pi^+\pi^-\pi^-)/\Gamma(\overline{K}^0\pi^+\pi^-)$

$\Gamma(\overline{K}^0\pi^+\pi^-\pi^0\pi^0(\pi^0))/\Gamma_{total}$ Γ_{63}/Γ

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
$0.106^{+0.073}_{-0.029}\pm0.006$	4	[59] AGUILAR-...	87F HYBR	πp, pp 360, 400 GeV

[59] AGUILAR-BENITEZ 87F computes the branching fraction using topological normalization, and does not distinguish the presence of a third π^0.

$\Gamma(\overline{K}^0K^+K^-)/\Gamma(\overline{K}^0\pi^+\pi^-)$ $\Gamma_{64}/\Gamma_{23} = (\Gamma_{66}+\frac{1}{2}\Gamma_{75})/\Gamma_{23}$

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.172±0.014 OUR FIT				
0.178±0.019 OUR AVERAGE				
0.20 ±0.05 ±0.04	47	FRABETTI	92B E687	γBe $\overline{E}_\gamma$= 221 GeV
0.170±0.022	136	AMMAR	91 CLEO	$e^+e^- \approx$ 10.5 GeV
0.24 ±0.08		BEBEK	86 CLEO	e^+e^- near $\Upsilon(4S)$
0.185±0.055	52	ALBRECHT	85B ARG	e^+e^- 10 GeV

$\Gamma(\overline{K}^0\phi)/\Gamma_{total}$ Γ_{75}/Γ

Unseen decay modes of the ϕ are included.

VALUE	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.0160^{+0.0059}_{-0.0041}$	[60] BARLAG	92C ACCM	π^- Cu 230 GeV
$0.0086^{+0.0050+0.0031}_{-0.0041-0.0018}$	ADLER	88C MRK3	e^+e^- 3.77 GeV

[60] BARLAG 92C computes the branching fraction using topological normalization.

*CITATION: L. Montanet et al., Physical Review D50, 1173 (1994) and 1995 off-year partial update for the 1996 edition (URL: http://pdg.lbl.gov/)

$\Gamma(\overline{K}^0\phi)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{75}/Γ_{23}

Unseen decay modes of the ϕ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.158±0.016 OUR FIT					
0.156±0.017 OUR AVERAGE					
0.13 ±0.06 ±0.02	13	FRABETTI	92B	E687	γBe $\overline{E}_\gamma$= 221 GeV
0.163±0.023	63	AMMAR	91	CLEO	$e^+e^-\approx$ 10.5 GeV
0.155±0.033	56	ALBRECHT	87E	ARG	e^+e^- 10 GeV
0.14 ±0.05	29	BEBEK	86	CLEO	e^+e^- near $\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.186±0.052	26	ALBRECHT	85B	ARG	See ALBRECHT 87E

$\Gamma(\overline{K}^0K^+K^-\text{ non-}\phi)/\Gamma_{\text{total}}$ — Γ_{66}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.0048^{+0.0033}_{-0.0026}$	[61] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.0085^{+0.0027+0.0020}_{-0.0024-0.0018}$	ADLER	88C	MRK3	e^+e^- 3.77 GeV

[61] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(\overline{K}^0K^+K^-\text{ non-}\phi)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{66}/Γ_{23}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.093±0.014 OUR FIT					
0.088±0.019 OUR AVERAGE					
0.11 ±0.04 ±0.03	20	FRABETTI	92B	E687	γBe $\overline{E}_\gamma$= 221 GeV
0.084±0.020		ALBRECHT	87E	ARG	e^+e^- 10 GeV

$\Gamma(K^0_SK^0_SK^0_S)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{67}/Γ_{23}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.018±0.004 OUR AVERAGE					
0.035±0.012±0.006	10	FRABETTI	94J	E687	γBe $\overline{E}_\gamma$=220 GeV
0.016±0.005	22	AMMAR	91	CLEO	$e^+e^-\approx$ 10.5 GeV
0.017±0.007±0.005	5	ALBRECHT	90C	ARG	$e^+e^-\approx$ 10 GeV

$\Gamma(K^+K^-\overline{K}^0\pi^0)/\Gamma_{\text{total}}$ — Γ_{68}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.0072^{+0.0048}_{-0.0035}}$	[62] BARLAG	92C	ACCM	π^- Cu 230 GeV

[62] BARLAG 92C computes the branching fraction using topological normalization.

Pionic modes

$\Gamma(\pi^+\pi^-)/\Gamma_{\text{total}}$ — Γ_{112}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
9± 5		[63] BARLAG	92C	ACCM	π^- Cu 230 GeV
$50^{+120}_{-20}\pm40$	1	[63] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV

[63] AGUILAR-BENITEZ 87F and BARLAG 92C compute the branching fraction using topological normalization.

$\Gamma(\pi^+\pi^-)/\Gamma(K^-\pi^+)$ — Γ_{112}/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0396±0.0027 OUR AVERAGE					
0.043 ±0.007 ±0.003	177	FRABETTI	94C	E687	γBe $\overline{E}_\gamma$= 220 GeV
0.0348±0.0030±0.0023	227	SELEN	93	CLEO	$e^+e^-\approx\Upsilon(4S)$
0.048 ±0.013 ±0.008	51	ADAMOVICH	92	OMEG	π^- 340 GeV
0.055 ±0.008 ±0.005	120	ANJOS	91D	E691	Photoproduction
0.040 ±0.007 ±0.006	57	ALBRECHT	90C	ARG	$e^+e^-\approx$ 10 GeV
0.050 ±0.007 ±0.005	110	ALEXANDER	90	CLEO	e^+e^- 10.5–11 GeV
0.033 ±0.010 ±0.006	39	BALTRUSAIT..	85E	MRK3	e^+e^- 3.77 GeV
0.033 ±0.015		ABRAMS	79D	MRK2	e^+e^- 3.77 GeV

$\Gamma(\pi^0\pi^0)/\Gamma_{total}$ Γ_{113}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.0046	90	ALEXANDER	90	CLEO	e^+e^- 10.5–11 GeV

$\Gamma(\pi^0\pi^0)/\Gamma(K^-\pi^+)$ Γ_{113}/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.022±0.004±0.004	40	SELEN	93	CLEO	$e^+e^- \approx \Upsilon(4S)$

$\Gamma(\pi^+\pi^-\pi^0)/\Gamma_{total}$ Γ_{114}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.016 ±0.011 OUR AVERAGE Error includes scale factor of 2.7.					
$0.0390^{+0.0100}_{-0.0095}$		[64] BARLAG	92C	ACCM	π^- Cu 230 GeV
0.011 ±0.004 ±0.002	10	[65] BALTRUSAIT..85E		MRK3	e^+e^- 3.77 GeV

[64] BARLAG 92C computes the branching fraction using topological normalization. Possible contamination by extra π^0's may partly explain the unexpectedly large value.
[65] All the BALTRUSAITIS 85E events are consistent with $\rho^0\pi^0$.

$\Gamma(\pi^+\pi^+\pi^-\pi^-)/\Gamma_{total}$ Γ_{115}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.0028±0.0008		[66] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.005\ ^{+0.011}_{-0.001}$ ±0.001	1	[66] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV
0.015 ±0.006 ±0.002	9	BALTRUSAIT..85E		MRK3	e^+e^- 3.77 GeV

[66] AGUILAR-BENITEZ 87F and BARLAG 92C compute the branching fraction using topological normalization.

$\Gamma(\pi^+\pi^+\pi^-\pi^-)/\Gamma(K^-\pi^+\pi^+\pi^-)$ Γ_{115}/Γ_{39}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.103±0.009 OUR AVERAGE					
0.115±0.023±0.016	64	ADAMOVICH	92	OMEG	π^- 340 GeV
0.108±0.024±0.008	79	FRABETTI	92	E687	γBe
0.102±0.013	345	[67] AMMAR	91	CLEO	$e^+e^- \approx$ 10.5 GeV
0.096±0.018±0.007	66	ANJOS	91	E691	γBe 80–240 GeV

[67] AMMAR 91 finds 1.25 ± 0.25 ± 0.25 ρ^0's per $\pi^+\pi^+\pi^-\pi^-$ decay, but can't untangle the resonant substructure ($\rho^0\rho^0$, $a_1^{\pm}\pi^{\mp}$, $\rho^0\pi^+\pi^-$).

$\Gamma(\pi^+\pi^+\pi^-\pi^-\pi^0)/\Gamma_{total}$ Γ_{116}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.0192^{+0.0041}_{-0.0038}}$	[68] BARLAG	92C	ACCM	π^- Cu 230 GeV

[68] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-\pi^-)/\Gamma_{total}$ Γ_{117}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0004±0.0003	[69] BARLAG	92C	ACCM	π^- Cu 230 GeV

[69] BARLAG 92C computes the branching fraction using topological normalization.

Hadronic modes with two K's

$\Gamma(K^+K^-)/\Gamma_{total}$ Γ_{118}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.0051^{+0.0012}_{-0.0011}$	[70] BARLAG	92C	ACCM	π^- Cu 230 GeV

[70] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(K^+K^-)/\Gamma(K^-\pi^+)$ — Γ_{118}/Γ_{21}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.113±0.006 OUR FIT					
0.113±0.006 OUR AVERAGE					
0.109±0.007±0.009	581	FRABETTI	94C	E687	γBe $\overline{E}_\gamma$= 220 GeV
0.107±0.029±0.015	103	ADAMOVICH	92	OMEG	π^- 340 GeV
0.138±0.027±0.010	155	FRABETTI	92	E687	γBe
0.16 ±0.05	34	ALVAREZ	91B	NA14	Photoproduction
0.107±0.010±0.009	193	ANJOS	91D	E691	Photoproduction
0.10 ±0.02 ±0.01	131	ALBRECHT	90C	ARG	$e^+e^-\approx$ 10 GeV
0.117±0.010±0.007	249	ALEXANDER	90	CLEO	e^+e^- 10.5–11 GeV
0.122±0.018±0.012	118	BALTRUSAIT...	85E	MRK3	e^+e^- 3.77 GeV
0.113±0.030		ABRAMS	79D	MRK2	e^+e^- 3.77 GeV

$\Gamma(K^+K^-)/\Gamma(\pi^+\pi^-)$ — $\Gamma_{118}/\Gamma_{112}$

The unused results here are redundant with $\Gamma(K^+K^-)/\Gamma(K^-\pi^+)$ and $\Gamma(\pi^+\pi^-)/\Gamma(K^-\pi^+)$ measurements by the same experiments.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
2.53±0.46±0.19		FRABETTI	94C	E687	γBe $\overline{E}_\gamma$= 220 GeV
2.23±0.81±0.46		ADAMOVICH	92	OMEG	π^- 340 GeV
1.95±0.34±0.22		ANJOS	91D	E691	Photoproduction
2.5 ±0.7		ALBRECHT	90C	ARG	$e^+e^-\approx$ 10 GeV
2.35±0.37±0.28	110	ALEXANDER	90	CLEO	e^+e^- 10.5–11 GeV

$\Gamma(K^0\overline{K}^0)/\Gamma_{total}$ — Γ_{119}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.0046	90	ADLER	88C	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^0\overline{K}^0)/\Gamma(K^-\pi^+)$ — Γ_{119}/Γ_{21}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.032	90	ANJOS	92B	E691	γBe 80–240 GeV

$\Gamma(K^0\overline{K}^0)/\Gamma(\overline{K}^0\pi^+\pi^-)$ — Γ_{119}/Γ_{23}

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$0.023^{+0.008}_{-0.007}$ OUR FIT						
$0.025^{+0.010}_{-0.008}$ OUR AVERAGE						
0.039±0.013±0.013		20	FRABETTI	94J	E687	γBe $\overline{E}_\gamma$=220 GeV
$0.021^{+0.011}_{-0.008}$±0.002		5	ALEXANDER	90	CLEO	e^+e^- 10.5–11 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.016	90		ALBRECHT	90C	ARG	$e^+e^-\approx$ 10 GeV

$\Gamma(K^0\overline{K}^0)/\Gamma(K^+K^-)$ — $\Gamma_{119}/\Gamma_{118}$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$0.29^{+0.09}_{-0.08}$ OUR FIT					
0.24±0.16	4	[71] CUMALAT	88	SPEC	nN 0–800 GeV

[71] Includes a correction communicated to us by the authors of CUMALAT 88.

$\Gamma(K^0K^-\pi^+)/\Gamma(K^-\pi^+)$ — Γ_{120}/Γ_{21}

VALUE	DOCUMENT ID		TECN	COMMENT
0.166±0.026 OUR FIT Error includes scale factor of 1.1.				
0.16 ±0.06	[72] ANJOS	91	E691	γBe 80–240 GeV

[72] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(K^0 K^- \pi^+)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ — Γ_{120}/Γ_{23}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.119±0.018 OUR FIT Error includes scale factor of 1.2.					
0.119±0.021 OUR AVERAGE Error includes scale factor of 1.3.					
0.108±0.019	61	AMMAR	91	CLEO	$e^+ e^- \approx$ 10.5 GeV
0.16 ±0.03 ±0.02	39	ALBRECHT	90C	ARG	$e^+ e^- \approx$ 10 GeV

$\Gamma(\overline{K}^*(892)^0 K^0)/\Gamma(K^- \pi^+)$ — Γ_{139}/Γ_{21}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.00^{+0.03}_{-0.00}$	[73] ANJOS	91	E691	γBe 80–240 GeV

[73] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(\overline{K}^*(892)^0 K^0)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ — Γ_{139}/Γ_{23}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.029	90	AMMAR	91	CLEO	$e^+ e^- \approx$ 10.5 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.03	90	ALBRECHT	90C	ARG	$e^+ e^- \approx$ 10 GeV

$\Gamma(K^*(892)^+ K^-)/\Gamma(K^- \pi^+)$ — Γ_{140}/Γ_{21}

Unseen decay modes of the $K^*(892)^+$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.089±0.020 OUR FIT				
0.16 $^{+0.08}_{-0.06}$	[74] ANJOS	91	E691	γBe 80–240 GeV

[74] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(K^*(892)^+ K^-)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ — Γ_{140}/Γ_{23}

Unseen decay modes of the $K^*(892)^+$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.064±0.014 OUR FIT Error includes scale factor of 1.1.					
0.058±0.014 OUR AVERAGE					
0.064±0.018	23	AMMAR	91	CLEO	$e^+ e^- \approx$ 10.5 GeV
0.05 ±0.02 ±0.01	15	ALBRECHT	90C	ARG	$e^+ e^- \approx$ 10 GeV

$\Gamma(K^0 K^- \pi^+ \text{ nonresonant})/\Gamma(K^- \pi^+)$ — Γ_{123}/Γ_{21}

VALUE	DOCUMENT ID		TECN	COMMENT
0.06±0.06	[75] ANJOS	91	E691	γBe 80–240 GeV

[75] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(\overline{K}^0 K^+ \pi^-)/\Gamma(K^- \pi^+)$ — Γ_{124}/Γ_{21}

VALUE	DOCUMENT ID		TECN	COMMENT
0.128±0.025 OUR FIT				
0.10 ±0.05	[76] ANJOS	91	E691	γBe 80–240 GeV

[76] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(\overline{K}^0 K^+ \pi^-)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ — Γ_{124}/Γ_{23}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.092±0.018 OUR FIT					
0.098±0.020	55	AMMAR	91	CLEO	$e^+ e^- \approx$ 10.5 GeV

$\Gamma(K^*(892)^0 \overline{K}^0)/\Gamma(K^- \pi^+)$ — Γ_{141}/Γ_{21}

Unseen decay modes of the $K^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.00^{+0.04}_{-0.00}$	[77] ANJOS	91	E691	γBe 80–240 GeV

[77] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(K^*(892)^0 \overline{K}^0)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ — Γ_{141}/Γ_{23}

Unseen decay modes of the $K^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.015	90	AMMAR	91	CLEO	$e^+ e^- \approx$ 10.5 GeV

$\Gamma(K^*(892)^- K^+)/\Gamma(K^- \pi^+)$ — Γ_{142}/Γ_{21}

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.00^{+0.03}_{-0.00}$	[78] ANJOS	91	E691	γ Be 80–240 GeV

[78] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(K^*(892)^- K^+)/\Gamma(\overline{K}^0 \pi^+ \pi^-)$ — Γ_{142}/Γ_{23}

Unseen decay modes of the $K^*(892)^-$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.034±0.019	12	AMMAR	91	CLEO	$e^+e^- \approx$ 10.5 GeV

$\Gamma(\overline{K}^0 K^+ \pi^-$ nonresonant$)/\Gamma(K^- \pi^+)$ — Γ_{127}/Γ_{21}

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.10^{+0.06}_{-0.05}}$	[79] ANJOS	91	E691	γ Be 80–240 GeV

[79] The factor 100 at the top of column 2 of Table I of ANJOS 91 should be omitted.

$\Gamma(\phi \pi^0)/\Gamma_{total}$ — Γ_{143}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0014	90	ALBRECHT	94I	ARG	$e^+e^- \approx$ 10 GeV

$\Gamma(\phi \eta)/\Gamma_{total}$ — Γ_{144}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0028	90	ALBRECHT	94I	ARG	$e^+e^- \approx$ 10 GeV

$\Gamma(\phi \omega)/\Gamma_{total}$ — Γ_{145}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0021	90	ALBRECHT	94I	ARG	$e^+e^- \approx$ 10 GeV

$\Gamma(K^+ K^- \pi^+ \pi^-)/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{128}/Γ_{39}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.033 ±0.005 OUR AVERAGE					
0.041 ±0.007±0.005	114	ALBRECHT	94I	ARG	$e^+e^- \approx$ 10 GeV
0.0314±0.010	89	AMMAR	91	CLEO	$e^+e^- \approx$ 10.5 GeV
$0.028\ ^{+0.008}_{-0.007}$		ANJOS	91	E691	γ Be 80–240 GeV

$\Gamma(\phi \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{146}/Γ

Unseen decay modes of the ϕ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.0026±0.0007	[80] BARLAG	92C	ACCM	π^- Cu 230 GeV

[80] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(\phi \pi^+ \pi^-)/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{146}/Γ_{39}

Unseen decay modes of the ϕ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.020 ±0.006 ±0.005	28	ALBRECHT	94I	ARG	$e^+e^- \approx$ 10 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.0076^{+0.0066}_{-0.0049}$	3	[81] ANJOS	91	E691	γ Be 80–240 GeV

[81] This ANJOS 91 result is inconsistent with the higher-statistics result of AMMAR 91 on $\phi \rho^0$.

$\Gamma(\phi \rho^0)/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{147}/Γ_{39}

Unseen decay modes of the ϕ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.023±0.005 OUR AVERAGE					
0.020±0.006±0.005	28	[82] ALBRECHT	94I	ARG	$e^+e^- \approx$ 10 GeV
0.024±0.006	34	[82] AMMAR	91	CLEO	$e^+e^- \approx$ 10.5 GeV

[82] The ALBRECHT 94I and AMMAR 91 $\phi \pi^+ \pi^-$ events are consistent with being entirely $\phi \rho^0$.

$\Gamma(K^*(892)^0 K^- \pi^+ + \text{c.c.})/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{148}/Γ_{39}

Unseen decay modes of the $K^*(892)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
$0.010^{+0.016}_{-0.010}$	ANJOS	91	E691	γBe 80–240 GeV

$\Gamma(K^*(892)^0 K^- \pi^+)/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{149}/Γ_{39}

The $K^{*0} K^- \pi^+$ and $\overline{K}^{*0} K^+ \pi^-$ modes are distinguished by the charge of the pion in $D^*(2010)^\pm \to D^0 \pi^\pm$ decays. Unseen decay modes of the $K^*(892)^0$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.043±0.014±0.009	55	ALBRECHT	94I	ARG	$e^+ e^- \approx 10$ GeV

$\Gamma(\overline{K}^*(892)^0 K^+ \pi^-)/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{150}/Γ_{39}

The $K^{*0} K^- \pi^+$ and $\overline{K}^{*0} K^+ \pi^-$ modes are distinguished by the charge of the pion in $D^*(2010)^\pm \to D^0 \pi^\pm$ decays. Unseen decay modes of the $\overline{K}^*(892)^0$ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.023±0.013±0.009	30	ALBRECHT	94I	ARG	$e^+ e^- \approx 10$ GeV

$\Gamma(K^*(892)^0 \overline{K}^*(892)^0)/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{151}/Γ_{39}

Unseen decay modes of the $K^*(892)^0$ and $\overline{K}^*(892)^0$ are included.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$0.036^{+0.020}_{-0.016}$		11	ANJOS	91	E691	γBe 80–240 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.033	90		[83] AMMAR	91	CLEO	$e^+ e^- \approx 10.5$ GeV

[83] A corrected value (G. Moneti, private communication).

$\Gamma(K^+ K^- \pi^+ \pi^- \text{ non-}\phi)/\Gamma_{\text{total}}$ — Γ_{135}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0017±0.0005	[84] BARLAG	92C	ACCM	π^- Cu 230 GeV

[84] BARLAG 92C computes the branching fraction using topological normalization.

$\Gamma(K^+ K^- \pi^+ \pi^- \text{ nonresonant})/\Gamma(K^- \pi^+ \pi^+ \pi^-)$ — Γ_{136}/Γ_{39}

VALUE	DOCUMENT ID		TECN	COMMENT
$0.001^{+0.011}_{-0.001}$	ANJOS	91	E691	γBe 80–240 GeV

$\Gamma(K^0_S K^0_S \pi^+ \pi^-)/\Gamma_{\text{total}}$ — Γ_{137}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0017±0.0005±0.0004	33	ALBRECHT	94I	ARG	$e^+ e^- \approx 10$ GeV

$\Gamma(K^+ K^- \pi^+ \pi^- \pi^0)/\Gamma_{\text{total}}$ — Γ_{138}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0031±0.0020	[85] BARLAG	92C	ACCM	π^- Cu 230 GeV

[85] BARLAG 92C computes the branching fraction using topological normalization.

Rare or forbidden modes

$\Gamma(K^+ \pi^-)/\Gamma(K^- \pi^+)$ — Γ_{152}/Γ_{21}

The measurements here cannot distinguish between doubly Cabibbo suppressed decay and/or $D^0 \overline{D}^0$ mixing.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
0.0077±0.0025±0.0025		19	CINABRO	94	CLEO	$e^+ e^- \approx \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.011	90		AMMAR	91	CLEO	$e^+ e^- \approx 10.5$ GeV
<0.015	90	2	ANJOS	88C	E691	Photoproduction

$\Gamma(K^+ \pi^- \text{ (via } \overline{D}^0))/\Gamma(K^- \pi^+)$ — Γ_{153}/Γ_{21}

This is a D^0-$\overline{D}^0$ mixing limit.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<0.0037	90	1	[86] ANJOS	88C	E691	Photoproduction

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

<0.014	90		ALBRECHT	87K	ARG	e^+e^- 10 GeV
<0.04	90		ABACHI	86D	HRS	e^+e^- 29 GeV
<0.07	90	0	[86] BAILEY	86	ACCM	π^- Be fixed target
<0.11	90	2	ALBRECHT	85F	ARG	e^+e^- 10 GeV
<0.081	90		[87] YAMAMOTO	85	DLCO	e^+e^- 29 GeV
<0.23	90		[87] ALTHOFF	84B	TASS	e^+e^- 34.4 GeV
<0.11	90		[87] AVERY	80	SPEC	$\gamma N \to D^{*+}$
<0.16	90		[87] FELDMAN	77B	MRK1	$D^{*+} \to D^0\pi^+$
<0.18	90		[87] GOLDHABER	77	MRK1	

[86] This measurement actually comes from combining results on $K^\pm\pi^\mp\pi^+\pi^-$ and $K^\pm\pi^\mp$ modes. See also the data block on $|m_{D^0_1} - m_{D^0_2}|$ near the beginning of the D^0 Listings.

[87] Results given as $\Gamma(K^+\pi^-)/[\Gamma(K^-\pi^+)+\Gamma(K^+\pi^-)]$ but do not change significantly for our denominator.

$\Gamma(K^+\pi^+\pi^-\pi^-)/\Gamma(K^-\pi^+\pi^+\pi^-)$ — Γ_{154}/Γ_{39}

Doubly Cabibbo suppressed.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<0.018	90		AMMAR	91	CLEO	$e^+e^- \approx$ 10.5 GeV
<0.018	90	5	ANJOS	88C	E691	Photoproduction

$\Gamma(\mu^-$ anything (via $\overline{D}^0$))/$\Gamma(\mu^+$ anything) — Γ_{155}/Γ_2

This is a D^0-$\overline{D}^0$ mixing limit. See the somewhat better limit above on $D^0 \to K^+\pi^-$ (via $\overline{D}^0$).

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0056	90	LOUIS	86	SPEC	π^- W 225 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.012	90	BENVENUTI	85	CNTR	μC, 200 GeV
<0.044	90	BODEK	82	SPEC	π^-, pFe $\to D^0$

$\Gamma(e^+e^-)/\Gamma_{\rm total}$ — Γ_{156}/Γ

A test for the $\Delta C = 1$ weak neutral current. Allowed by first-order weak interaction combined with electromagnetic interaction.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<1.3 × 10⁻⁴	90		ADLER	88	MRK3	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<1.7 \times 10^{-4}$	90	7	[88] ALBRECHT	88G	ARG	e^+e^- 10 GeV
$<2.2 \times 10^{-4}$	90	8	[89] HAAS	88	CLEO	e^+e^- 10 GeV

[88] The branching ratios are normalized to B($D^0 \to K^-\pi^+$) using ADLER 88C.
[89] The branching ratios are normalized to $D^0 \to K^-\pi^+$, $D^+ \to K^-\pi^+\pi^+$, and $D^{*+} \to D^0\pi^+$ using ADLER 88C.

$\Gamma(\mu^+\mu^-)/\Gamma_{\rm total}$ — Γ_{157}/Γ

A test for the $\Delta C = 1$ weak neutral current. Allowed by first-order weak interaction combined with electromagnetic interaction.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-5}$	90		LOUIS	86	SPEC	π^- W 225 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<4.4 \times 10^{-5}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV
$<3.1 \times 10^{-5}$	90		[90] MISHRA	94	E789	-4.1 ± 4.8 events
$<7.0 \times 10^{-5}$	90	3	[91] ALBRECHT	88G	ARG	e^+e^- 10 GeV
$<3.4 \times 10^{-4}$	90		AUBERT	85	EMC	Deep inelast. $\mu^- N$

[90] Here MISHRA 94 uses "the statistical approach advocated by the PDG." For an alternate approach, giving a limit of 9×10^{-6} at 90% confidence level, see the paper.
[91] The branching ratios are normalized to B($D^0 \to K^-\pi^+$), using ADLER 88C.

$\Gamma(\pi^0\mu^+\mu^-)/\Gamma_{\rm total}$ — Γ_{158}/Γ

A test for the ΔC=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<1.8 \times 10^{-4}$	90	2	KODAMA	95	E653	π^- emulsion 600 GeV

$\Gamma(\overline{K}^0e^+e^-)/\Gamma_{\rm total}$ — Γ_{159}/Γ

A test for the $\Delta C = 1$ weak neutral current. Allowed by first-order weak interaction combined with electromagnetic interaction.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0017	90	ADLER	89C	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0 \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{160}/Γ

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<2.6 × 10⁻⁴	90	2	KODAMA	95	E653	π^- emulsion 600 GeV

$\Gamma(\rho^0 e^+ e^-)/\Gamma_{total}$ — Γ_{161}/Γ

A test for the $\Delta C = 1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<4.5 \times 10^{-4}$	90	2	[92] HAAS	88	CLEO	$e^+ e^-$ 10 GeV

[92] The branching ratios are normalized to $D^0 \to K^- \pi^+$, $D^+ \to K^- \pi^+ \pi^+$, and $D^{*+} \to D^0 \pi^+$ using ADLER 88C.

$\Gamma(\rho^0 \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{162}/Γ

A test for the $\Delta C = 1$ weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<2.3 \times 10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<8.1 \times 10^{-4}$	90	5	[93] HAAS	88	CLEO	$e^+ e^-$ 10 GeV

[93] The branching ratios are normalized to $D^0 \to K^- \pi^+$, $D^+ \to K^- \pi^+ \pi^+$, and $D^{*+} \to D^0 \pi^+$ using ADLER 88C.

$\Gamma(\pi^+ \pi^- \pi^0 \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{163}/Γ

A test for the ΔC=1 weak neutral current. Allowed by higher-order electroweak interactions.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<8.1 \times 10^{-4}$	90	1	KODAMA	95	E653	π^- emulsion 600 GeV

$\Gamma(\mu^\pm e^\mp)/\Gamma_{total}$ — Γ_{164}/Γ

A test of lepton family number conservation.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$< 1.0 \times 10^{-4}$	90	4	[94] ALBRECHT	88G	ARG	$e^+ e^-$ 10 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$< 2.7 \times 10^{-4}$	90	9	[95] HAAS	88	CLEO	$e^+ e^-$ 10 GeV
$< 1.2 \times 10^{-4}$	90		BECKER	87C	MRK3	$e^+ e^-$ 3.77 GeV
$< 9 \times 10^{-4}$	90		PALKA	87	SILI	200 GeV πp
$<21 \times 10^{-4}$	90	0	[96] RILES	87	MRK2	$e^+ e^-$ 29 GeV

[94] The branching ratios are normalized to B($D^0 \to K^- \pi^+$) using ADLER 88C.
[95] The branching ratios are normalized to $D^0 \to K^- \pi^+$, $D^+ \to K^- \pi^+ \pi^+$, and $D^{*+} \to D^0 \pi^+$ using ADLER 88C.
[96] RILES 87 assumes B($D \to K \pi$) = 3.0% and has production model dependency.

D^0 *CP*-VIOLATING DECAY-RATE ASYMMETRIES

$A_{CP}(K^+ K^-) \equiv (\eta(D^0) - \eta(\overline{D}^0))/(\eta(D^0) + \eta(\overline{D}^0))$

Here $\eta(D^0) \equiv N(D^0 \to K^+ K^-)/N(D^0 \to K^- \pi^+)$ is the ratio of (efficiency-corrected) numbers of events observed, and similarly for $\eta(\overline{D}^0)$.

VALUE	DOCUMENT ID		TECN	COMMENT
+0.024±0.084	FRABETTI	94I	E687	γBe $\overline{E}_\gamma$=220 GeV

D^0 PRODUCTION CROSS SECTION AT $\psi(3770)$

A compilation of the cross sections for the direct production of D^0 mesons at or near the $\psi(3770)$ peak in $e^+ e^-$ production.

VALUE (nanobarns)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
5.8 ±0.5 ±0.6	[97] ADLER	88C	MRK3	$e^+ e^-$ 3.768 GeV
7.3 ±1.3	[98] PARTRIDGE	84	CBAL	$e^+ e^-$ 3.771 GeV
8.00±0.95±1.21	[99] SCHINDLER	80	MRK2	$e^+ e^-$ 3.771 GeV
11.5 ±2.5	[100] PERUZZI	77	MRK1	$e^+ e^-$ 3.774 GeV

[97] This measurement compares events with one detected D to those with two detected D mesons, to determine the the absolute cross section. ADLER 88C find the ratio of cross sections (neutral to charged) to be 1.36 ± 0.23 ± 0.14.
[98] This measurement comes from a scan of the $\psi(3770)$ resonance and a fit to the cross section. PARTRIDGE 84 measures 6.4 ± 1.15 nb for the cross section. We take the

phase space division of neutral and charged D mesons in ψ(3770) decay to be 1.33, and we assume that the ψ(3770) is an isosinglet to evaluate the cross sections. The noncharm decays (e.g. radiative) of the ψ(3770) are included in this measurement and may amount to a few percent correction.

[99] This measurement comes from a scan of the ψ(3770) resonance and a fit to the cross section. SCHINDLER 80 assume the phase space division of neutral and charged D mesons in ψ(3770) decay to be 1.33, and that the ψ(3770) is an isosinglet. The noncharm decays (e.g. radiative) of the ψ(3770) are included in this measurement and may amount to a few percent correction.

[100] This measurement comes from a scan of the ψ(3770) resonance and a fit to the cross section. The phase space division of neutral and charged D mesons in ψ(3770) decay is taken to be 1.33, and ψ(3770) is assumed to be an isosinglet. The noncharm decays (e.g. radiative) of the ψ(3770) are included in this measurement and may amount to a few percent correction. We exclude this measurement from the average because of uncertainties in the contamination from τ lepton pairs. Also see RAPIDIS 77.

D^0-$\overline{D}^0$ DECAY ASYMMETRY PARAMETER

$[\Gamma(D^0 \to K^+K^-) - \Gamma(\overline{D}^0 \to K^+K^-)]$/SUM

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.45	90	[101] ANJOS	91D	E691	Photoproduction

[101] ANJOS 91D is a limit on the time-independent asymmetry for direct CP violation.

D^0 REFERENCES

KODAMA	95	PL B345 85	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
ALBRECHT	94	PL B324 249	+Ehrlichmann, Hamacher+	(ARGUS Collab.)
ALBRECHT	94F	PL B340 125	+Hamacher, Hofmann+	(ARGUS Collab.)
ALBRECHT	94I	ZPHY C64 375	+Hamacher, Hofmann+	(ARGUS Collab.)
CINABRO	94	PRL 72 1406	+Henderson, Liu, Saulnier+	(CLEO Collab.)
FRABETTI	94C	PL B321 295	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	94D	PL B323 459	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	94G	PL B331 217	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	94I	PR D50 R2953	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	94J	PL B340 254	+Cheung, Cumalat+	(FNAL E687 Collab.)
KODAMA	94	PL B336 605	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
MISHRA	94	PR D50 R9	+Brown, Cooper+	(FNAL E789 Collab.)
PDG	94	PR D50 1173	Montanet+	(CERN, LBL, BOST, IFIC+)
AKERIB	93	PRL 71 3070	+Barish, Chadha, Chan+	(CLEO Collab.)
ALBRECHT	93D	PL B308 435	+Ehrlichmann, Hamacher+	(ARGUS Collab.)
ANJOS	93	PR D48 56	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
BEAN	93C	PL B317 647	+Gronberg, Kutschke, Menary+	(CLEO Collab.)
FRABETTI	93I	PL B315 203	+Bogart, Cheung, Culy+	(FNAL E687 Collab.)
KODAMA	93B	PL B313 260	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
PROCARIO	93B	PR D48 4007	+Yang, Akerib, Barish+	(CLEO Collab.)
SELEN	93	PRL 71 1973	+Sadoff, Ammar, Ball+	(CLEO Collab.)
ADAMOVICH	92	PL B280 163	+Alexandrov, Antinori+	(CERN WA82 Collab.)
ALBRECHT	92P	ZPHY C56 7	+Cronstroem, Ehrlichmann+	(ARGUS Collab.)
ANJOS	92B	PR D46 R1	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ANJOS	92C	PR D46 1941	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
BARLAG	92C	ZPHY C55 383	+Becker, Bozek, Boehringer+	(ACCMOR Collab.)
Also	90D	ZPHY C48 29	Barlag, Becker, Boehringer, Bosman+	(ACCMOR Collab.)
COFFMAN	92B	PR D45 2196	+DeJongh, Dubois, Eigen+	(Mark III Collab.)
Also	90	PRL 64 2615	Adler, Blaylock, Bolton+	(Mark III Collab.)
FRABETTI	92	PL B281 167	+Bogart, Cheung, Culy+	(FNAL E687 Collab.)
FRABETTI	92B	PL B286 195	+Bogart, Cheung, Culy+	(FNAL E687 Collab.)
ALVAREZ	91B	ZPHY C50 11	+Barate, Bloch, Bonamy+	(CERN NA14/2 Collab.)
AMMAR	91	PR D44 3383	+Baringer, Coppage, Davis+	(CLEO Collab.)
ANJOS	91	PR D43 R635	+Appel, Bean, Bracker+	(FNAL-TPS Collab.)
ANJOS	91D	PR D44 R3371	+Appel, Bean, Bracker+	(FNAL-TPS Collab.)
BAI	91	PRL 66 1011	+Bolton, Brown, Bunnell+	(Mark III Collab.)
COFFMAN	91	PL B263 135	+DeJongh, Dubois, Eigen, Hitlin+	(Mark III Collab.)
CRAWFORD	91B	PR D44 3394	+Fulton, Gan, Jensen+	(CLEO Collab.)
DECAMP	91J	PL B266 218	+Deschizeaux, Goy, Lees+	(ALEPH Collab.)
FRABETTI	91	PL B263 584	+Bogart, Cheung, Culy+	(FNAL E687 Collab.)
KINOSHITA	91	PR D43 2836	+Pipkin, Procario, Wilson+	(CLEO Collab.)
KODAMA	91	PRL 66 1819	+Ushida, Mokhtarani, Paolone+	(FNAL E653 Collab.)
ALBRECHT	90C	ZPHY C46 9	+Glaeser, Harder, Krueger+	(ARGUS Collab.)
ALEXANDER	90	PRL 65 1184	+Artuso, Bebek, Berkelman+	(CLEO Collab.)
ALEXANDER	90B	PRL 65 1531	+Artuso, Bebek, Berkelman+	(CLEO Collab.)
ALVAREZ	90	ZPHY C47 539	+Barate, Bloch, Bonamy+	(CERN NA14/2 Collab.)
ANJOS	90D	PR D42 2414	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
BARLAG	90C	ZPHY C46 563	+Becker, Boehringer, Bosman+	(ACCMOR Collab.)
ADLER	89	PRL 62 1821	+Becker, Blaylock, Bolton+	(Mark III Collab.)
ADLER	89C	PR D40 906	+Bai, Becker, Blaylock, Bolton+	(Mark III Collab.)
ALBRECHT	89D	ZPHY C43 181	+Boeckmann, Glaeser, Harder+	(ARGUS Collab.)
ANJOS	89F	PRL 62 1587	+Appel, Bean, Bracker, Browder+	(FNAL E691 Collab.)
ABACHI	88	PL B205 411	+Akerlof, Baringer+	(HRS Collab.)
ADLER	88	PR D37 2023	+Becker, Blaylock+	(Mark III Collab.)
ADLER	88C	PRL 60 89	+Becker, Blaylock+	(Mark III Collab.)
ALBRECHT	88G	PL B209 380	+Boeckmann, Glaeser+	(ARGUS Collab.)
ALBRECHT	88I	PL B210 267	+Boeckmann, Glaeser+	(ARGUS Collab.)
AMENDOLIA	88	EPL 5 407	+Bagliesi, Batignani+	(NA1 Collab.)

ANJOS	88C	PRL 60 1239	+Appel+	(FNAL E691 Collab.)
BORTOLETTO	88	PR D37 1719	+Goldberg, Horwitz, Mestayer, Moneti+	(CLEO Collab.)
Also	89D	PR D39 1471 erratum		
CUMALAT	88	PL B210 253	+Shipbaugh, Binkley+	(E-400 Collab.)
HAAS	88	PRL 60 1614	+Hempstead, Jensen+	(CLEO Collab.)
RAAB	88	PR D37 2391	+Anjos, Appel, Bracker+	(FNAL E691 Collab.)
ADAMOVICH	87	EPL 4 887	+Alexandrov, Bolta+	(Photon Emulsion Collab.)
ADLER	87	PL B196 107	+Becker, Blaylock, Bolton+	(Mark III Collab.)
AGUILAR-...	87D	PL B193 140	Aguilar-Benitez, Allison+	(LEBC-EHS Collab.)
Also	88B	ZPHY C40 321	Aguilar-Benitez, Allison, Bailly+	(LEBC-EHS Collab.)
AGUILAR-...	87E	ZPHY C36 551	Aguilar-Benitez, Allison+	(LEBC-EHS Collab.)
Also	88B	ZPHY C40 321	Aguilar-Benitez, Allison, Bailly+	(LEBC-EHS Collab.)
AGUILAR-...	87F	ZPHY C36 559	Aguilar-Benitez, Allison+	(LEBC-EHS Collab.)
Also	88	ZPHY C38 520 erratum		
ALBRECHT	87E	ZPHY C33 359	+Binder, Boeckmann, Glaser+	(ARGUS Collab.)
ALBRECHT	87K	PL B199 447	+Andam, Binder, Boeckmann+	(ARGUS Collab.)
BARLAG	87B	ZPHY C37 17	+Becker, Boehringer, Bosman+	(ACCMOR Collab.)
BECKER	87C	PL B193 147	+Blaylock, Bolton, Brown+	(Mark III Collab.)
Also	87D	PL B198 590 erratum	Becker, Blaylock, Bolton+	(Mark III Collab.)
CSORNA	87	PL B191 318	+Mestayer, Panvini, Word+	(CLEO Collab.)
PALKA	87	PL B189 238	+Bailey, Becker, Belau+	(ACCMOR Collab.)
RILES	87	PR D35 2914	+Dorfan, Abrams, Amidei+	(Mark II Collab.)
ABACHI	86D	PL B182 101	+Akerlof, Baringer, Ballam+	(HRS Collab.)
ABE	86	PR D33 1	+	(SLAC Hybrid Facility Photon Collab.)
BAILEY	86	ZPHY C30 51	+Belau, Boehringer, Bosman+	(ACCMOR Collab.)
BEBEK	86	PRL 56 1893	+Berkelman, Blucher, Cassel+	(CLEO Collab.)
GLADNEY	86	PR D34 2601	+Jaros, Ong, Barklow+	(Mark II Collab.)
LOUIS	86	PRL 56 1027	+Adolphsen, Alexander+	(PRIN, CHIC, ISU)
USHIDA	86B	PRL 56 1771	+Kondo+	(AICH, FNAL, KOBE, SEOU, MCGI+)
ALBRECHT	85B	PL 158B 525	+Binder, Harder, Philipp+	(ARGUS Collab.)
ALBRECHT	85F	PL 150B 235	+Binder, Harder, Philipp+	(ARGUS Collab.)
AUBERT	85	PL 155B 461	+Bassompierre, Becks, Benchouk+	(EMC Collab.)
BAILEY	85	ZPHY C28 357	+Belau, Boehringer, Bosman+	(ABCCMR Collab.)
BALTRUSAIT...	85B	PRL 54 1976	Baltrusaitis, Becker, Blaylock, Brown+	(Mark III Collab.)
BALTRUSAIT...	85E	PRL 55 150	Baltrusaitis, Becker, Blaylock, Brown+	(Mark III Collab.)
BENVENUTI	85	PL 158B 531	+Bollini, Bruni, Camporesi+	(BCDMS Collab.)
YAMAMOTO	85	PRL 54 522	+Yamamoto, Atwood, Baillon+	(DELCO Collab.)
ADAMOVICH	84B	PL 140B 123	+Alexandrov, Bravo+	(CERN WA58 Collab.)
ALTHOFF	84B	PL 138B 317	+Braunschweig, Kirschfink+	(TASSO Collab.)
DERRICK	84	PRL 53 1971	+Fernandez, Fries, Hyman+	(HRS Collab.)
PARTRIDGE	84	Thesis CALT-68-1150		(Crystal Ball Collab.)
SUMMERS	84	PRL 52 410	+	(UCSB, CARL, COLO, FNAL, TNTO, OKLA, CNRC)
BAILEY	83B	PL 132B 237	+Bardsley, Becker, Blanar+	(ACCMOR Collab.)
BODEK	82	PL 113B 82	+Breedon+	(ROCH, CIT, CHIC, FNAL, STAN)
FIORINO	81	LNC 30 166	+	(Photon-Emulsion and Omega-Photon Collab.)
SCHINDLER	81	PR D24 78	+Alam, Boyarski, Breidenbach+	(Mark II Collab.)
TRILLING	81	PRPL 75 57		(LBL, UCB) J
ASTON	80E	PL 94B 113	+	(BONN, CERN, EPOL, GLAS, LANC, MCHS+)
AVERY	80	PRL 44 1309	+Wiss, Butler, Gladding+	(ILL, FNAL, COLU)
SCHINDLER	80	PR D21 2716	+Siegrist, Alam, Boyarski+	(Mark II Collab.)
ZHOLENTZ	80	PL 96B 214	+Kurdadze, Lelchuk, Mishnev+	(NOVO)
Also	81	SJNP 34 814	Zholentz, Kurdadze, Lelchuk+	(NOVO)
		Translated from YAF 34 1471.		
ABRAMS	79D	PRL 43 481	+Alam, Blocker, Boyarski+	(SLAC, LBL)
ATIYA	79	PRL 43 414	+Holmes, Knapp, Lee+	(COLU, ILL, FNAL)
BALTAY	78C	PRL 41 73	+Caroumbalis, French, Hibbs, Hylton+	(COLU, BNL)
VUILLEMIN	78	PRL 41 1149	+Feldman, Feller+	(LBL, SLAC, NWES, HAWA)
FELDMAN	77B	PRL 38 1313	+Peruzzi, Piccolo, Abrams, Alam+	(SLAC, LBL)
GOLDHABER	77	PL 69B 503	+Wiss, Abrams, Alam+	(LBL, SLAC)
PERUZZI	77	PRL 39 1301	+Piccolo, Feldman+	(SLAC, LBL, NWES, HAWA)
PICCOLO	77	PL 70B 260	+Peruzzi, Luth, Nguyen, Wiss, Abrams+	(SLAC, LBL)
RAPIDIS	77	PRL 39 526	+Gobbi, Luke, Barbaro-Galtieri+	(Mark I Collab.)
GOLDHABER	76	PRL 37 255	+Pierre, Abrams, Alam+	(LBL, SLAC)

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