$D^{\pm}$ – THIS IS PART 2 OF 2

To reduce the size of this section's PostScript file, we have divided it into two PostScript files. We present the following index:

PART 1

Page #	Section name
1	Mass
1	Mean life
2	Decay modes
9	Branching ratios
9	Inclusive modes
12	Leptonic and semileptonic modes

PART 2

Page #	Section name
	Branching ratios (continued)
17	Hadronic modes with a $\overline{K}$ or $\overline{K}K\overline{K}$
25	Pionic modes
27	Hadronic modes with a $K\overline{K}$ pair
29	Rare or forbidden modes
33	CP-violating decay-rate asymmetries
33	Production cross section at $\psi(3770)$
34	Form factors
35	References

Hadronic modes with a $\overline{K}$ or $\overline{K}K\overline{K}$

$\Gamma(\overline{K}^0\pi^+)/\Gamma_{total}$ Γ_{33}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0289±0.0026 OUR FIT Error includes scale factor of 1.1.					
0.032 ±0.004 OUR AVERAGE					
0.032 ±0.005 ±0.002	161	ADLER	88C	MRK3	e^+e^- 3.77 GeV
0.033 ±0.009	36	[34] SCHINDLER	81	MRK2	e^+e^- 3.771 GeV
0.033 ±0.013	17	[35] PERUZZI	77	MRK1	e^+e^- 3.77 GeV

[34] SCHINDLER 81 (MARK-2) measures $\sigma(e^+e^- \to \psi(3770)) \times$ branching fraction to be 0.14 ± 0.03 nb. We use the MARK-3 (ADLER 88C) value of $\sigma = 4.2 \pm 0.6 \pm 0.3$ nb.

[35] PERUZZI 77 (MARK-1) measures $\sigma(e^+e^- \to \psi(3770)) \times$ branching fraction to be 0.14 ± 0.05 nb. We use the MARK-3 (ADLER 88C) value of $\sigma = 4.2 \pm 0.6 \pm 0.3$ nb.

$\Gamma(\overline{K}^0\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{33}/Γ_{34}

It is generally assumed for modes such as $D^+ \to \overline{K}^0\pi^+$ that

$$\Gamma(D^+ \to \overline{K}^0\pi^+) = 2\Gamma(D^+ \to K^0_S\pi^+);$$

it is the latter Γ that is actually measured. BIGI 95 points out that interference between Cabibbo-allowed and doubly Cabibbo-suppressed amplitudes where both occur could invalidate this assumption by a few percent.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.321±0.025 OUR FIT Error includes scale factor of 1.1.					
0.32 ±0.04 OUR AVERAGE Error includes scale factor of 1.4.					
0.348±0.024±0.022	473	[36] BISHAI	97	CLEO	$e^+e^- \approx \Upsilon(4S)$
0.274±0.030±0.031	264	ANJOS	90C	E691	Photoproduction

[36] See BISHAI 97 for an isospin analysis of $D^+ \to \overline{K}\pi$ amplitudes.

$\Gamma(K^-\pi^+\pi^+)/\Gamma_{total}$ Γ_{34}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.090±0.006 OUR FIT					
0.091±0.007 OUR AVERAGE					
0.093±0.006±0.008	1502	[37] BALEST	94	CLEO	$e^+e^- \approx \Upsilon(4S)$
0.091±0.013±0.004	1164	ADLER	88C	MRK3	e^+e^- 3.77 GeV
0.091±0.019	239	[38] SCHINDLER	81	MRK2	e^+e^- 3.771 GeV
0.086±0.020	85	[39] PERUZZI	77	MRK1	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.064^{+0.015}_{-0.014}$		[40] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.063^{+0.028}_{-0.014}\pm0.011$	8	[40] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV

[37] BALEST 94 measures the ratio of $D^+ \to K^-\pi^+\pi^+$ and $D^0 \to K^-\pi^+$ branching fractions to be 2.35 ± 0.16 ± 0.16 and uses their absolute measurement of the $D^0 \to K^-\pi^+$ fraction (AKERIB 93).

[38] SCHINDLER 81 (MARK-2) measures $\sigma(e^+e^- \to \psi(3770)) \times$ branching fraction to be 0.38 ± 0.05 nb. We use the MARK-3 (ADLER 88C) value of $\sigma = 4.2 \pm 0.6 \pm 0.3$ nb.

[39] PERUZZI 77 (MARK-1) measures $\sigma(e^+e^- \to \psi(3770)) \times$ branching fraction to be 0.36 ± 0.06 nb. We use the MARK-3 (ADLER 88C) value of $\sigma = 4.2 \pm 0.6 \pm 0.3$ nb.

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

$\Gamma(\overline{K}^*(892)^0\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{73}/Γ_{34}

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

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
0.212±0.016 OUR FIT					
0.210±0.015 OUR AVERAGE					
0.206±0.009±0.014		FRABETTI	94G	E687	γ Be, $\overline{E}_\gamma \approx 220$ GeV
0.255±0.014±0.050		ANJOS	93	E691	γ Be 90–260 GeV
0.21 ±0.06 ±0.06		ALVAREZ	91B	NA14	Photoproduction
0.20 ±0.02 ±0.11		ADLER	87	MRK3	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.053	90	SCHINDLER	81	MRK2	e^+e^- 3.771 GeV

$\Gamma(\overline{K}_0^*(1430)^0\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{82}/Γ_{34}

Unseen decay modes of the $\overline{K}_0^*(1430)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.41 ±0.04 OUR AVERAGE				
0.458±0.035±0.094	FRABETTI	94G	E687	γ Be, $\overline{E}_\gamma \approx 220$ GeV
0.400±0.031±0.027	ANJOS	93	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^*(1680)^0\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{83}/Γ_{34}

Unseen decay modes of the $\overline{K}^*(1680)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.160±0.032 OUR AVERAGE Error includes scale factor of 1.1.				
0.182±0.023±0.028	FRABETTI	94G	E687	γ Be, $\overline{E}_\gamma \approx 220$ GeV
0.113±0.015±0.050	ANJOS	93	E691	γ Be 90–260 GeV

$\Gamma(K^-\pi^+\pi^+ \text{ nonresonant})/\Gamma(K^-\pi^+\pi^+)$ Γ_{38}/Γ_{34}

VALUE	DOCUMENT ID		TECN	COMMENT
0.95 ±0.07 OUR AVERAGE				
0.998±0.037±0.072	FRABETTI	94G	E687	γ Be, $\overline{E}_\gamma \approx 220$ GeV
0.838±0.088±0.275	ANJOS	93	E691	γ Be 90–260 GeV
0.79 ±0.07 ±0.15	ADLER	87	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0\pi^+\pi^0)/\Gamma_{\text{total}}$ Γ_{39}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.097±0.030 OUR FIT Error includes scale factor of 1.1.					
0.107±0.029 OUR AVERAGE					
0.102±0.025±0.016	159	ADLER	88C	MRK3	e^+e^- 3.77 GeV
0.19 ±0.12	10	[41] SCHINDLER	81	MRK2	e^+e^- 3.771 GeV

[41] SCHINDLER 81 (MARK-2) measures $\sigma(e^+e^- \to \psi(3770)) \times$ branching fraction to be 0.78 ± 0.48 nb. We use the MARK-3 (ADLER 88C) value of $\sigma = 4.2 \pm 0.6 \pm 0.3$ nb.

$\Gamma(\overline{K}^0\rho^+)/\Gamma(\overline{K}^0\pi^+\pi^0)$ Γ_{40}/Γ_{39}

VALUE	DOCUMENT ID		TECN	COMMENT
0.68±0.08±0.12	ADLER	87	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^*(892)^0\pi^+)/\Gamma(\overline{K}^0\pi^+\pi^0)$ Γ_{73}/Γ_{39}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.20±0.06 OUR FIT				
0.57±0.18±0.18	ADLER	87	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0\pi^+\pi^0$ **nonresonant**$)/\Gamma(\overline{K}^0\pi^+\pi^0)$ Γ_{42}/Γ_{39}

VALUE	DOCUMENT ID		TECN	COMMENT
0.13±0.07±0.08	ADLER	87	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^-\pi^+\pi^+\pi^0)/\Gamma_{\text{total}}$ Γ_{43}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.064±0.011 OUR FIT					
0.058±0.012±0.012	142	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.034^{+0.056}_{-0.070}$		[42] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.022^{+0.047}_{-0.006}\pm0.004$	1	[42] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV
$0.063^{+0.014}_{-0.013}\pm0.012$	175	BALTRUSAIT...	86E	MRK3	See COFFMAN 92B

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

$\Gamma(K^-\pi^+\pi^+\pi^0)/\Gamma(K^-\pi^+\pi^+)$ Γ_{43}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.71±0.12 OUR FIT					
0.76±0.11±0.12	91	ANJOS	92C	E691	γ Be 90–260 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.69±0.10±0.16		ANJOS	89E	E691	See ANJOS 92C
$0.57^{+0.65}_{-0.17}$	1	AGUILAR-...	83B	HYBR	$\pi^- p$, 360 GeV

$\Gamma(\overline{K}^*(892)^0\rho^+$ **total**$)/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{74}/Γ_{43}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.33±0.165±0.12	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^*(892)^0\rho^+$ ***S*-wave**$)/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{75}/Γ_{43}

Unseen decay modes of the $\overline{K}^*(892)^0$ are included. The two experiments disagree severely here.

VALUE	DOCUMENT ID		TECN	COMMENT
0.26 ±0.25 OUR AVERAGE	Error includes scale factor of 3.1.			
0.15 ±0.075±0.045	ANJOS	92C	E691	γ Be 90–260 GeV
0.833±0.116±0.165	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^*(892)^0\rho^+$ ***P*-wave**$)/\Gamma_{\text{total}}$ Γ_{76}/Γ

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

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.001	90	ANJOS	92C	E691	γ Be 90–260 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.005	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^*(892)^0\rho^+ D\text{-wave})/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{77}/Γ_{43}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.15±0.09±0.045	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^*(892)^0\rho^+ D\text{-wave longitudinal})/\Gamma_{total}$ Γ_{78}/Γ

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

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.007	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}_1(1400)^0\pi^+)/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{80}/Γ_{43}

Unseen decay modes of the $\overline{K}_1(1400)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.77 ±0.20 OUR FIT				
0.907±0.218±0.180	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^-\rho^+\pi^+ \text{total})/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{88}/Γ_{43}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.48±0.13±0.09	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(K^-\rho^+\pi^+ \text{3-body})/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{89}/Γ_{43}

VALUE	DOCUMENT ID		TECN	COMMENT
0.17 ±0.06 OUR AVERAGE				
0.18 ±0.08 ±0.04	ANJOS	92C	E691	γ Be 90–260 GeV
0.159±0.065±0.060	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^0 \text{total})/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{84}/Γ_{43}

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

VALUE	DOCUMENT ID		TECN	COMMENT
1.05±0.11±0.08	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^0 \text{3-body})/\Gamma_{total}$ Γ_{85}/Γ

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

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.008	90	[43] COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

[43] See, however, the next entry: ANJOS 92C sees a large signal in this channel.

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^0 \text{3-body})/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{85}/Γ_{43}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.66±0.09±0.17	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(K^*(892)^-\pi^+\pi^+ \text{3-body})/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{87}/Γ_{43}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.32±0.14 OUR FIT Error includes scale factor of 1.1.				
0.24±0.12±0.09	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(K^-\pi^+\pi^+\pi^0$ nonresonant$)/\Gamma_{total}$ Γ_{51}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.002	90	[44] ANJOS	92C	E691	γ Be 90–260 GeV

[44] Whereas ANJOS 92C finds no signal here, COFFMAN 92B finds a fairly large one; see the next entry.

$\Gamma(K^-\pi^+\pi^+\pi^0$ nonresonant$)/\Gamma(K^-\pi^+\pi^+\pi^0)$ Γ_{51}/Γ_{43}

VALUE	DOCUMENT ID		TECN	COMMENT
0.184±0.070±0.050	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)/\Gamma_{total}$ Γ_{52}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.070±0.009 OUR FIT					
0.071±0.016 OUR AVERAGE					
0.066±0.015±0.005	168	ADLER	88C	MRK3	e^+e^- 3.77 GeV
0.12 ±0.05	21	[45] SCHINDLER	81	MRK2	e^+e^- 3.771 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$0.042^{+0.019}_{-0.017}$		[46] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.243^{+0.064}_{-0.041}\pm0.041$	11	[46] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV

[45] SCHINDLER 81 (MARK-2) measures $\sigma(e^+e^- \to \psi(3770)) \times$ branching fraction to be 0.51 ± 0.08 nb. We use the MARK-3 (ADLER 88C) value of $\sigma = 4.2 \pm 0.6 \pm 0.3$ nb.

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

$\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)/\Gamma(K^-\pi^+\pi^+)$ Γ_{52}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.78±0.10 OUR FIT					
0.77±0.07±0.11	229	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^0 a_1(1260)^+)/\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)$ Γ_{71}/Γ_{52}

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

VALUE	DOCUMENT ID		TECN	COMMENT
1.15 ±0.19 OUR AVERAGE	Error includes scale factor of 1.1.			
1.66 ±0.28 ±0.40	ANJOS	92C	E691	γ Be 90–260 GeV
1.078±0.114±0.140	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0 a_2(1320)^+)/\Gamma_{total}$ Γ_{72}/Γ

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

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.003	90	ANJOS	92C	E691	γ Be 90–260 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.008	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}_1(1270)^0\pi^+)/\Gamma_{total}$ Γ_{79}/Γ

Unseen decay modes of the $\overline{K}_1(1270)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.007	90	ANJOS	92C	E691	γ Be 90–260 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.011	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}_1(1400)^0\pi^+)/\Gamma_{total}$ Γ_{80}/Γ

Unseen decay modes of the $\overline{K}_1(1400)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.009	90	[47] ANJOS	92C	E691	γ Be 90–260 GeV

[47] ANJOS 92C sees no evidence for $\overline{K}_1(1400)^0\pi^+$ in either the $\overline{K}^0\pi^+\pi^+\pi^-$ or $K^-\pi^+\pi^+\pi^0$ channels, whereas COFFMAN 92B finds the $\overline{K}_1(1400)^0\pi^+$ branching fraction to be large; see the next entry.

$\Gamma(\overline{K}_1(1400)^0\pi^+)/\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)$ Γ_{80}/Γ_{52}

Unseen decay modes of the $\overline{K}_1(1400)^0$ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.70 ±0.17 OUR FIT				
0.623±0.106±0.180	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^*(1410)^0\pi^+)/\Gamma_{total}$ Γ_{81}/Γ

Unseen decay modes of the $\overline{K}^*(1410)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.007	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^*(892)^-\pi^+\pi^+\text{total})/\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)$ Γ_{86}/Γ_{52}

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. • • •					
0.41±0.14	14	ALEEV	94	BIS2	nN 20–70 GeV

$\Gamma(K^*(892)^-\pi^+\pi^+\text{3-body})/\Gamma_{total}$ Γ_{87}/Γ

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

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
0.020±0.009 OUR FIT					
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.013	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^*(892)^-\pi^+\pi^+\text{3-body})/\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)$ Γ_{87}/Γ_{52}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.29±0.13 OUR FIT Error includes scale factor of 1.1.				
0.50±0.09±0.21	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^0\rho^0\pi^+ \text{total})/\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)$ Γ_{90}/Γ_{52}

This includes $\overline{K}^0 a_1(1260)^+$. The next two entries gives the specifically 3-body reaction.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
0.60±0.10±0.17	90	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^0\rho^0\pi^+ \text{3-body})/\Gamma_{\text{total}}$ Γ_{91}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.004	90	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(\overline{K}^0\rho^0\pi^+ \text{3-body})/\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)$ Γ_{91}/Γ_{52}

VALUE	DOCUMENT ID		TECN	COMMENT
0.07±0.04±0.06	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^0 f_0(980)\pi^+)/\Gamma_{\text{total}}$ Γ_{92}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.005	90	ANJOS	92C	E691	γ Be 90–260 GeV

$\Gamma(\overline{K}^0\pi^+\pi^+\pi^- \text{nonresonant})/\Gamma(\overline{K}^0\pi^+\pi^+\pi^-)$ Γ_{58}/Γ_{52}

VALUE	DOCUMENT ID		TECN	COMMENT
0.12±0.06 OUR AVERAGE				
0.10±0.04 ±0.06	ANJOS	92C	E691	γ Be 90–260 GeV
0.17±0.056±0.100	COFFMAN	92B	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^-\pi^+\pi^+\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{59}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
$0.0037^{+0.0012}_{-0.0010}$	[48] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(K^-\pi^+\pi^+\pi^+\pi^-)/\Gamma(K^-\pi^+\pi^+)$ Γ_{59}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.080±0.009 OUR FIT					
0.083±0.009 OUR AVERAGE					
0.077±0.008±0.010	239	FRABETTI	97C	E687	γ Be, $\overline{E}_\gamma \approx$ 200 GeV
0.09 ±0.01 ±0.01	113	ANJOS	90D	E691	Photoproduction

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^+\pi^-)/\Gamma(K^-\pi^+\pi^+\pi^+\pi^-)$ Γ_{93}/Γ_{59}

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

VALUE	DOCUMENT ID		TECN	COMMENT
1.1 ±0.4 OUR FIT Error includes scale factor of 1.8.				
1.25±0.12±0.23	ANJOS	90D	E691	Photoproduction

$\Gamma(\overline{K}^*(892)^0\pi^+\pi^+\pi^- \text{no-}\rho)/\Gamma(K^-\pi^+\pi^+)$ Γ_{94}/Γ_{34}

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.048±0.015±0.011	FRABETTI	97C	E687	γ Be, $\overline{E}_\gamma \approx$ 200 GeV

$\Gamma(K^-\rho^0\pi^+\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{62}/Γ_{34}

VALUE	DOCUMENT ID		TECN	COMMENT
0.034±0.009±0.005	FRABETTI	97C	E687	γ Be, $\overline{E}_\gamma \approx$ 200 GeV

$\Gamma(\overline{K}^*(892)^0\rho^0\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{96}/Γ_{34}

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

VALUE	DOCUMENT ID		TECN	COMMENT
$0.032^{+0.019}_{-0.017}$ OUR FIT Error includes scale factor of 1.8.				
0.023±0.010±0.006	FRABETTI	97C	E687	γ Be, $\overline{E}_\gamma \approx$ 200 GeV

$\Gamma(\overline{K}^*(892)^0\rho^0\pi^+)/\Gamma(\overline{K}^*(892)^0\pi^+\pi^+\pi^-)$ Γ_{96}/Γ_{93}

VALUE	DOCUMENT ID		TECN	COMMENT
$0.36^{+0.24}_{-0.20}$ OUR FIT Error includes scale factor of 1.8.				
0.75±0.17±0.19	ANJOS	90D	E691	Photoproduction

$\Gamma(K^-\pi^+\pi^+\pi^+\pi^-$ **nonresonant**$)/\Gamma(K^-\pi^+\pi^+)$ Γ_{64}/Γ_{34}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.026	90	FRABETTI	97C	E687	γ Be, $\overline{E}_\gamma \approx$ 200 GeV

$\Gamma(K^-\pi^+\pi^+\pi^0\pi^0)/\Gamma_{total}$ Γ_{65}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$0.022^{+0.047}_{-0.008}\pm0.004$	1	[49] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV

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

<0.015		[49] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(\overline{K}^0\pi^+\pi^+\pi^-\pi^0)/\Gamma_{total}$ Γ_{66}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$0.054^{+0.030}_{-0.014}$ OUR AVERAGE					
$0.099^{+0.036}_{-0.070}$		[50] BARLAG	92C	ACCM	π^- Cu 230 GeV
$0.044^{+0.052}_{-0.013}\pm0.007$	2	[50] AGUILAR-...	87F	HYBR	πp, pp 360, 400 GeV

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

$\Gamma(\overline{K}^0\pi^+\pi^+\pi^+\pi^-\pi^-)/\Gamma_{total}$ Γ_{67}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0008±0.0007	[51] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

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

VALUE	DOCUMENT ID		TECN	COMMENT
0.0020±0.0018	[52] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(\overline{K^0}K^0K^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{69}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.20±0.09 OUR AVERAGE Error includes scale factor of 2.4.					
0.14±0.04±0.02	39	ALBRECHT	94I	ARG	$e^+e^-\approx$ 10 GeV
0.34±0.07	70	AMMAR	91	CLEO	$e^+e^-\approx$ 10.5 GeV

Pionic modes

$\Gamma(\pi^+\pi^0)/\Gamma(K^-\pi^+\pi^+)$ Γ_{97}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.028±0.006±0.005	34	SELEN	93	CLEO	$e^+e^-\approx\ \Upsilon(4S)$

$\Gamma(\pi^+\pi^+\pi^-)/\Gamma(K^-\pi^+\pi^+)$ Γ_{98}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.035±0.006 OUR AVERAGE					
0.032±0.011±0.003	20	ADAMOVICH	93	WA82	π^- 340 GeV
0.035±0.007±0.003		ANJOS	89	E691	Photoproduction
0.042±0.016±0.010	57	BALTRUSAIT...	85E	MRK3	e^+e^- 3.77 GeV

$\Gamma(\rho^0\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{99}/Γ_{34}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.015	90	ANJOS	89	E691	Photoproduction

$\Gamma(\pi^+\pi^+\pi^-\ \text{nonresonant})/\Gamma(K^-\pi^+\pi^+)$ Γ_{100}/Γ_{34}

VALUE	DOCUMENT ID		TECN	COMMENT
0.027±0.007±0.002	ANJOS	89	E691	Photoproduction

$\Gamma(\pi^+\pi^+\pi^-\pi^0)/\Gamma_{\text{total}}$ Γ_{101}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$\mathbf{0.019^{+0.015}_{-0.012}}$	[53] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(\pi^+\pi^+\pi^-\pi^0)/\Gamma(K^-\pi^+\pi^+)$ Γ_{101}/Γ_{34}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.4	90	ANJOS	89E	E691	Photoproduction

$\Gamma(\eta\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{106}/Γ_{34}

Unseen decay modes of the η are included.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
0.083±0.023±0.014		99	DAOUDI	92	CLEO	$e^+e^-\approx$ 10.5 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.12	90		ANJOS	89E	E691	Photoproduction

$\Gamma(\omega\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{108}/Γ_{34}

Unseen decay modes of the ω are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.08	90	ANJOS	89E	E691	Photoproduction

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-)/\Gamma_{total}$ Γ_{104}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •			
$0.0010^{+0.0008}_{-0.0007}$	[54] BARLAG 92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-)/\Gamma(K^-\pi^+\pi^+)$ Γ_{104}/Γ_{34}

VALUE	CL%	EVTS	DOCUMENT ID	TECN	COMMENT
$0.023\pm0.004\pm0.002$		58	FRABETTI 97C	E687	γ Be, $\overline{E}_\gamma \approx 200$ GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.019	90		ANJOS 89	E691	Photoproduction

$\Gamma(\eta\rho^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{109}/Γ_{34}

Unseen decay modes of the η are included.

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.13	90	DAOUDI 92	CLEO	$e^+e^-\approx$ 10.5 GeV

$\Gamma(\pi^+\pi^+\pi^+\pi^-\pi^-\pi^0)/\Gamma_{total}$ Γ_{105}/Γ

VALUE	DOCUMENT ID	TECN	COMMENT
$0.0029^{+0.0029}_{-0.0020}$	[55] BARLAG 92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(\eta'(958)\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{110}/Γ_{34}

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

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.1	90	DAOUDI 92	CLEO	$e^+e^-\approx$ 10.5 GeV
<0.1	90	ALVAREZ 91	NA14	Photoproduction
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.13	90	ANJOS 91B	E691	γ Be, $\overline{E}_\gamma \approx$ 145 GeV

$\Gamma(\eta'(958)\rho^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{111}/Γ_{34}

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

VALUE	CL%	DOCUMENT ID	TECN	COMMENT
<0.17	90	DAOUDI 92	CLEO	$e^+e^-\approx$ 10.5 GeV

Hadronic modes with a $K\overline{K}$ pair

$\Gamma(K^+\overline{K}^0)/\Gamma(\overline{K}^0\pi^+)$ Γ_{112}/Γ_{33}

It is generally assumed for modes such as $D^+ \to \overline{K}^0\pi^+$ that
$\Gamma(D^+ \to \overline{K}^0\pi^+) = 2\Gamma(D^+ \to K^0_S\pi^+)$;
it is the latter Γ that is actually measured. BIGI 95 points out that interference between Cabibbo-allowed and doubly Cabibbo-suppressed amplitudes where both occur could invalidate this assumption by a few percent.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.255±0.029 OUR FIT					
0.263±0.035 OUR AVERAGE					
0.25 ±0.04 ±0.02	129	FRABETTI	95	E687	γ Be $\overline{E}_\gamma \approx 200$ GeV
0.271±0.065±0.039	69	ANJOS	90C	E691	γ Be
0.317±0.086±0.048	31	BALTRUSAIT...	85E	MRK3	e^+e^- 3.77 GeV
0.25 ±0.15	6	SCHINDLER	81	MRK2	e^+e^- 3.771 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.222±0.041±0.029	70	[56] BISHAI	97	CLEO	$e^+e^- \approx \Upsilon(4S)$

[56] This BISHAI 97 result is redundant with results elsewhere in the Listings.

$\Gamma(K^+\overline{K}^0)/\Gamma(K^-\pi^+\pi^+)$ Γ_{112}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.082±0.010 OUR FIT					
0.077±0.014±0.007	70	[57] BISHAI	97	CLEO	$e^+e^- \approx \Upsilon(4S)$

[57] See BISHAI 97 for an isospin analysis of $D^+ \to K\overline{K}$ amplitudes.

$\Gamma(K^+K^-\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{113}/Γ_{34}

VALUE	DOCUMENT ID		TECN	COMMENT
0.0976±0.0042±0.0046	FRABETTI	95B	E687	Dalitz plot analysis

$\Gamma(\phi\pi^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{130}/Γ_{34}

Unseen decay modes of the ϕ are included.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.068±0.005 OUR AVERAGE					
0.058±0.006±0.006		FRABETTI	95B	E687	Dalitz plot analysis
0.062±0.017±0.006	19	ADAMOVICH	93	WA82	π^- 340 GeV
0.077±0.011±0.005	128	DAOUDI	92	CLEO	$e^+e^- \approx$ 10.5 GeV
0.098±0.032±0.014	12	ALVAREZ	90C	NA14	Photoproduction
0.071±0.008±0.007	84	ANJOS	88	E691	Photoproduction
0.084±0.021±0.011	21	BALTRUSAIT...	85E	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^+\overline{K}^*(892)^0)/\Gamma(K^-\pi^+\pi^+)$ Γ_{134}/Γ_{34}

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

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.047±0.005 OUR AVERAGE	Error includes scale factor of 1.2.				
0.044±0.003±0.004		[58] FRABETTI	95B	E687	Dalitz plot analysis
0.058±0.009±0.006	73	ANJOS	88	E691	Photoproduction
0.048±0.021±0.011	14	BALTRUSAIT...	85E	MRK3	e^+e^- 3.77 GeV

[58] See FRABETTI 95B for evidence also of $\overline{K}^*_0(1430)\,K^+$ in the $D^+ \to K^+K^-\pi^+$ Dalitz plot.

$\Gamma(K^+K^-\pi^+$ nonresonant$)/\Gamma(K^-\pi^+\pi^+)$ Γ_{116}/Γ_{34}

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.050±0.009 OUR AVERAGE					
0.049±0.008±0.006	95	ANJOS	88	E691	Photoproduction
0.059±0.026±0.009	37	BALTRUSAIT...	85E	MRK3	e^+e^- 3.77 GeV

$\Gamma(K^*(892)^+\overline{K^0})/\Gamma(\overline{K^0}\pi^+)$ Γ_{135}/Γ_{33}

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

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.1±0.3±0.4	67	FRABETTI	95	E687	γ Be $\overline{E}_\gamma \approx 200$ GeV

$\Gamma(\phi\pi^+\pi^0)/\Gamma_{\text{total}}$ Γ_{131}/Γ

Unseen decay modes of the ϕ are included.

VALUE	DOCUMENT ID		TECN	COMMENT
0.023±0.010	[59] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(\phi\pi^+\pi^0)/\Gamma(K^-\pi^+\pi^+)$ Γ_{131}/Γ_{34}

Unseen decay modes of the ϕ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.58	90	ALVAREZ	90C	NA14	Photoproduction
<0.28	90	ANJOS	89E	E691	Photoproduction

$\Gamma(\phi\rho^+)/\Gamma(K^-\pi^+\pi^+)$ Γ_{132}/Γ_{34}

Unseen decay modes of the ϕ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.16	90	DAOUDI	92	CLEO	$e^+e^- \approx$ 10.5 GeV

$\Gamma(K^+K^-\pi^+\pi^0$ non-$\phi)/\Gamma_{\text{total}}$ Γ_{122}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
$0.015^{+0.007}_{=0.006}$	[60] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(K^+K^-\pi^+\pi^0$ non-$\phi)/\Gamma(K^-\pi^+\pi^+)$ Γ_{122}/Γ_{34}

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.25	90	ANJOS	89E	E691	Photoproduction

$\Gamma(K^+\overline{K^0}\pi^+\pi^-)/\Gamma_{\text{total}}$ Γ_{123}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.02	90	ALBRECHT	92B	ARG	$e^+e^- \simeq$ 10.4 GeV

$\Gamma(K^0K^-\pi^+\pi^+)/\Gamma_{\text{total}}$ Γ_{124}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.01 ±0.005±0.003	ALBRECHT	92B	ARG	$e^+e^- \simeq$ 10.4 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •				
<0.003	[61] BARLAG	92C	ACCM	π^- Cu 230 GeV

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

$\Gamma(K^*(892)^+ \overline{K}^*(892)^0)/\Gamma_{total}$ Γ_{136}/Γ

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

VALUE	DOCUMENT ID		TECN	COMMENT
$0.026 \pm 0.008 \pm 0.007$	ALBRECHT	92B	ARG	$e^+ e^- \simeq$ 10.4 GeV

$\Gamma(K^0 K^- \pi^+ \pi^+ \text{non-} K^{*+} \overline{K}^{*0})/\Gamma_{total}$ Γ_{126}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0079	90	ALBRECHT	92B	ARG	$e^+ e^- \simeq$ 10.4 GeV

$\Gamma(\phi \pi^+ \pi^+ \pi^-)/\Gamma_{total}$ Γ_{133}/Γ

Unseen decay modes of the ϕ are included.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<0.002	90	0	ANJOS	88	E691	Photoproduction

$\Gamma(\phi \pi^+ \pi^+ \pi^-)/\Gamma(K^- \pi^+ \pi^+)$ Γ_{133}/Γ_{34}

Unseen decay modes of the ϕ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.031	90	ALVAREZ	90C	NA14	Photoproduction

$\Gamma(\phi \pi^+ \pi^+ \pi^-)/\Gamma(\phi \pi^+)$ $\Gamma_{133}/\Gamma_{130}$

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.6	90	FRABETTI	92	E687	γ Be

$\Gamma(K^+ K^- \pi^+ \pi^+ \pi^- \text{nonresonant})/\Gamma_{total}$ Γ_{129}/Γ

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<0.03	90	12	ANJOS	88	E691	Photoproduction

Rare or forbidden modes

$\Gamma(K^+ \pi^+ \pi^-)/\Gamma(K^- \pi^+ \pi^+)$ Γ_{137}/Γ_{34}

A doubly Cabibbo-suppressed decay with no simple spectator process possible.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
$0.0072 \pm 0.0023 \pm 0.0017$	21	FRABETTI	95E	E687	γ Be, $\overline{E}_\gamma =$ 220 GeV

$\Gamma(K^+ \rho^0)/\Gamma(K^- \pi^+ \pi^+)$ Γ_{138}/Γ_{34}

A doubly Cabibbo-suppressed decay with no simple spectator process possible.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0067	90	FRABETTI	95E	E687	γ Be, $\overline{E}_\gamma =$ 220 GeV

$\Gamma(K^*(892)^0 \pi^+)/\Gamma(K^- \pi^+ \pi^+)$ Γ_{139}/Γ_{34}

A doubly Cabibbo-suppressed decay with no simple spectator process possible. Unseen decay modes of the $K^*(892)^0$ are included.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.0021	90	FRABETTI	95E	E687	γ Be, $\overline{E}_\gamma =$ 220 GeV

$\Gamma(K^+K^+K^-)/\Gamma(K^-\pi^+\pi^+)$ Γ_{140}/Γ_{34}

A doubly Cabibbo-suppressed decay with no simple spectator process possible.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<0.0016	90		[62] FRABETTI	95F	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV

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

$0.057 \pm 0.020 \pm 0.007$	13		ADAMOVICH	93	WA82	π^- 340 GeV

[62] Using the $\phi\pi^+$ mode to normalize, FRABETTI 95F gets $\Gamma(K^+K^+K^-)/\Gamma(\phi\pi^+) <$ 0.025.

$\Gamma(\phi K^+)/\Gamma(\phi\pi^+)$ $\Gamma_{141}/\Gamma_{130}$

A doubly Cabibbo-suppressed decay with no simple spectator process possible.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<0.021	90		FRABETTI	95F	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV

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

$0.058^{+0.032}_{-0.026} \pm 0.007$	4	[63]	ANJOS	92D	E691	γ Be, $\overline{E}_\gamma = 145$ GeV

[63] The evidence of ANJOS 92D is a small excess of events $(4.5^{+2.4}_{-2.0})$.

$\Gamma(\pi^+ e^+ e^-)/\Gamma_{\text{total}}$ Γ_{142}/Γ

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

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<6.6 \times 10^{-5}$	90		AITALA	96	E791	π^- N 500 GeV

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

$<1.1 \times 10^{-4}$	90		FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
$<2.5 \times 10^{-3}$	90		WEIR	90B	MRK2	e^+e^- 29 GeV
$<2.6 \times 10^{-3}$	90	39	[64] HAAS	88	CLEO	e^+e^- 10 GeV

[64] 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.

$\Gamma(\pi^+ \mu^+ \mu^-)/\Gamma_{\text{total}}$ Γ_{143}/Γ

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

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<1.8 \times 10^{-5}$	90		AITALA	96	E791	π^- N 500 GeV

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

$<8.9 \times 10^{-5}$	90		FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
$<2.2 \times 10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV
$<5.9 \times 10^{-3}$	90		WEIR	90B	MRK2	e^+e^- 29 GeV
$<2.9 \times 10^{-3}$	90	36	[65] HAAS	88	CLEO	e^+e^- 10 GeV

[65] 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.

$\Gamma(\rho^+ \mu^+ \mu^-)/\Gamma_{\text{total}}$ Γ_{144}/Γ

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

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<5.6 \times 10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV

$\Gamma(K^+ e^+ e^-)/\Gamma_{total}$ Γ_{145}/Γ

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.0 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4.8 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(K^+ \mu^+ \mu^-)/\Gamma_{total}$ Γ_{146}/Γ

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<9.7 \times 10^{-5}$	90		FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<3.2 \times 10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV
$<9.2 \times 10^{-3}$	90		WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(\pi^+ e^\pm \mu^\mp)/\Gamma_{total}$ Γ_{147}/Γ

A test of lepton-family-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<3.8 \times 10^{-3}$	90	58	[66] HAAS	88	CLEO	$e^+ e^-$ 10 GeV

[66] 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.

$\Gamma(\pi^+ e^+ \mu^-)/\Gamma_{total}$ Γ_{148}/Γ

A test of lepton-family-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.3 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(\pi^+ e^- \mu^+)/\Gamma_{total}$ Γ_{149}/Γ

A test of lepton-family-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.3 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(K^+ e^+ \mu^-)/\Gamma_{total}$ Γ_{150}/Γ

A test of lepton-family-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.4 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(K^+ e^- \mu^+)/\Gamma_{total}$ Γ_{151}/Γ

A test of lepton-family-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.4 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(\pi^- e^+ e^+)/\Gamma_{total}$ Γ_{152}/Γ

A test of lepton-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4.8 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(\pi^- \mu^+ \mu^+)/\Gamma_{total}$ Γ_{153}/Γ

A test of lepton-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<8.7 \times 10^{-5}$	90		FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<2.2 \times 10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV
$<6.8 \times 10^{-3}$	90		WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(\pi^- e^+ \mu^+)/\Gamma_{total}$ Γ_{154}/Γ

A test of lepton-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.1 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<3.7 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(\rho^- \mu^+ \mu^+)/\Gamma_{total}$ Γ_{155}/Γ

A test of lepton-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<5.6 \times 10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV

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

A test of lepton-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<9.1 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

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

A test of lepton-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<1.2 \times 10^{-4}$	90		FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
$<3.2 \times 10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV
$<4.3 \times 10^{-3}$	90		WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(K^- e^+ \mu^+)/\Gamma_{total}$ Γ_{158}/Γ

A test of lepton-number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3 \times 10^{-4}$	90	FRABETTI	97B	E687	γ Be, $\overline{E}_\gamma \approx$ 220 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4.0 \times 10^{-3}$	90	WEIR	90B	MRK2	$e^+ e^-$ 29 GeV

$\Gamma(K^*(892)^-\mu^+\mu^+)/\Gamma_{total}$ Γ_{159}/Γ

A test of lepton-number conservation.

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
$<8.5\times10^{-4}$	90	0	KODAMA	95	E653	π^- emulsion 600 GeV

$D^\pm$ *CP*-VIOLATING DECAY-RATE ASYMMETRIES

$A_{CP}(K^+K^-\pi^\pm)$ in $D^\pm \to K^+K^-\pi^\pm$

This is the difference between D^+ and D^- partial widths for these modes divided by the sum of the widths.

VALUE	DOCUMENT ID		TECN	COMMENT
-0.031 ± 0.068	[67] FRABETTI	94I	E687	$-0.14 < A_{CP} < +0.081$ (90% CL)

[67] FRABETTI 94I measures $N(D^+ \to K^-K^+\pi^+)/N(D^+ \to K^-\pi^+\pi^+)$, the ratio of (efficiency-corrected) numbers of events observed, and similarly for the D^-.

$A_{CP}(K^\pm K^{*0})$ in $D^+ \to K^+\overline{K}^{*0}$ and $D^- \to K^-K^{*0}$

This is the difference between D^+ and D^- partial widths for these modes divided by the sum of the widths.

VALUE	DOCUMENT ID		TECN	COMMENT
-0.12 ± 0.13	[68] FRABETTI	94I	E687	$-0.33 < A_{CP} < +0.094$ (90% CL)

[68] FRABETTI 94I measures $N(D^+ \to K^+\overline{K}^*(892)^0)/N(D^+ \to K^-\pi^+\pi^+)$, the ratio of (efficiency-corrected) numbers of events observed, and similarly for the D^-.

$A_{CP}(\phi\pi^\pm)$ in $D^\pm \to \phi\pi^\pm$

This is the difference between D^+ and D^- partial widths for these modes divided by the sum of the widths.

VALUE	DOCUMENT ID		TECN	COMMENT
$+0.066\pm0.086$	[69] FRABETTI	94I	E687	$-0.075 < A_{CP} < +0.21$ (90% CL)

[69] FRABETTI 94I measures $N(D^+ \to \phi\pi^+)/N(D^+ \to K^-\pi^+\pi^+)$, the ratio of (efficiency-corrected) numbers of events observed, and similarly for the D^-.

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

A compilation of the cross sections for the direct production of $D^\pm$ 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. • • •				
4.2 ±0.6 ±0.3	[70] ADLER	88C	MRK3	e^+e^- 3.768 GeV
5.5 ±1.0	[71] PARTRIDGE	84	CBAL	e^+e^- 3.771 GeV
$6.00\pm0.72\pm1.02$	[72] SCHINDLER	80	MRK2	e^+e^- 3.771 GeV
9.1 ±2.0	[73] PERUZZI	77	MRK1	e^+e^- 3.774 GeV

[70] This measurement compares events with one detected D to those with two detected D mesons, to determine the the absolute cross section. ADLER 88C measure the ratio of cross sections (neutral to charged) to be $1.36 \pm 0.23 \pm 0.14$. This measurement does not include the decays of the $\psi(3770)$ not associated with charmed particle production.

[71] 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 $\psi(3770)$ decay to be 1.33, and we assume that the $\psi(3770)$ is an isosinglet to evaluate the cross sections. The

noncharm decays (e.g. radiative) of the $\psi(3770)$ are included in this measurement and may amount to a few percent correction.

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

[73] This measurement comes from a scan of the $\psi(3770)$ resonance and a fit to the cross section. The phase space division of neutral and charged D mesons in $\psi(3770)$ decay is taken to be 1.33, and $\psi(3770)$ is assumed to be an isosinglet. The noncharm decays (e.g. radiative) of the $\psi(3770)$ 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.

$D^+ \to \overline{K}^*(892)^0 \ell^+ \nu_\ell$ FORM FACTORS

$r_2 \equiv A_2(0)/A_1(0)$ in $D^+ \to \overline{K}^*(892)^0 \ell^+ \nu_\ell$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.73±0.15 OUR AVERAGE					
0.78±0.18±0.10	874	[74] FRABETTI	93E	E687	220 GeV γ Be
$0.82^{+0.22}_{-0.23}\pm0.11$	305	[74] KODAMA	92	E653	600 GeV $\pi^- N$
0.0 ±0.5 ±0.2	183	[75] ANJOS	90E	E691	γ Be 90–260 GeV

[74] FRABETTI 93E and KODAMA 92 use $D^+ \to \overline{K}^*(892)^0 \mu^+ \nu_\mu$ decays.

[75] ANJOS 90E uses $D^+ \to \overline{K}^*(892)^0 e^+ e_\mu$ decays.

$r_V \equiv V(0)/A_1(0)$ in $D^+ \to \overline{K}^*(892)^0 \ell^+ \nu_\ell$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.90±0.25 OUR AVERAGE					
1.74±0.27±0.28	874	[76] FRABETTI	93E	E687	220 GeV γ Be
$2.00^{+0.34}_{-0.32}\pm0.16$	305	[76] KODAMA	92	E653	600 GeV $\pi^- N$
2.0 ±0.6 ±0.3	183	[77] ANJOS	90E	E691	γ Be 90–260 GeV

[76] FRABETTI 93E and KODAMA 92 use $D^+ \to \overline{K}^*(892)^0 \mu^+ \nu_\mu$ decays.

[77] ANJOS 90E uses $D^+ \to \overline{K}^*(892)^0 e^+ e_\mu$ decays.

Γ_L/Γ_T in $D^+ \to \overline{K}^*(892)^0 \ell^+ \nu_\ell$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.23±0.13 OUR AVERAGE					
1.20±0.13±0.13	874	[78] FRABETTI	93E	E687	220 GeV γ Be
1.18±0.18±0.08	305	[78] KODAMA	92	E653	600 GeV $\pi^- N$
$1.8\ ^{+0.6}_{-0.4}\ \pm0.3$	183	[79] ANJOS	90E	E691	γ Be 90–260 GeV

[78] FRABETTI 93E and KODAMA 92 use $D^+ \to \overline{K}^*(892)^0 \mu^+ \nu_\mu$ decays. Γ_L/Γ_T is evaluated for a lepton mass of zero.

[79] ANJOS 90E uses $D^+ \to \overline{K}^*(892)^0 e^+ e_\mu$ decays.

Γ_+/Γ_- in $D^+ \to \overline{K}^*(892)^0 \ell^+ \nu_\ell$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.16±0.04 OUR AVERAGE					
$0.16 \pm 0.05 \pm 0.02$	305	[80] KODAMA	92	E653	600 GeV π^- N
$0.15^{+0.07}_{-0.05} \pm 0.03$	183	[81] ANJOS	90E	E691	γ Be 90–260 GeV

[80] KODAMA 92 uses $D^+ \to \overline{K}^*(892)^0 \mu^+ \nu_\mu$ decays. Γ_+/Γ_- is evaluated for a lepton mass of zero.

[81] ANJOS 90E uses $D^+ \to \overline{K}^*(892)^0 e^+ e_\mu$ decays.

$D^\pm$ REFERENCES

AITALA	97	PL B397 325	+Amato, Anjos, Appel+	(FNAL E791 Collab.)
BISHAI	97	PRL 78 3261	+Fast, Gerndt, Hinson+	(CLEO Collab.)
FRABETTI	97	PL B391 235	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	97B	PL B398 239	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	97C	PL B401 131	+Cheung, Cumalat+	(FNAL E687 Collab.)
PDG	97	Unofficial 1997 WWW edition		
AITALA	96	PRL 76 364	+Amato, Anjos+	(FNAL E791 Collab.)
ALBRECHT	96C	PL B374 249	+Hamacher, Hofmann+	(ARGUS Collab.)
BIGI	95	PL B349 363	+Yamamoto	(NDAM, HARV)
FRABETTI	95	PL B346 199	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	95B	PL B351 591	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	95E	PL B359 403	+Cheung, Cumalat+	(FNAL E687 Collab.)
FRABETTI	95F	PL B363 259	+Cheung, Cumalat+	(FNAL E687 Collab.)
KODAMA	95	PL B345 85	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
ALBRECHT	94I	ZPHY C64 375	+Hamacher, Hofmann+	(ARGUS Collab.)
ALEEV	94	PAN 57 1370 Translated from YF 57 1443.	+Balandin+	(Serpukhov BIS-2 Collab.)
BALEST	94	PRL 72 2328	+Cho, Daoudi, Ford+	(CLEO 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.)
ABE	93E	PL B313 288	+Amako, Arai, Arima, Asano+	(VENUS Collab.)
ADAMOVICH	93	PL B305 177	+Alexandrov, Antinori+	(CERN WA82 Collab.)
AKERIB	93	PRL 71 3070	+Barish, Chadha, Chan+	(CLEO Collab.)
ALAM	93	PRL 71 1311	+Kim, Nemati, O'Neill+	(CLEO Collab.)
ANJOS	93	PR D48 56	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
BEAN	93C	PL B317 647	+Gronberg, Kutschke, Menary+	(CLEO Collab.)
FRABETTI	93E	PL B307 262	+Grim, Paolone, Yager+	(FNAL E687 Collab.)
KODAMA	93B	PL B313 260	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
KODAMA	93C	PL B316 455	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
SELEN	93	PRL 71 1973	+Sadoff, Ammar, Ball+	(CLEO Collab.)
ALBRECHT	92B	ZPHY C53 361	+Ehrlichmann, Hamacher, Krueger+	(ARGUS Collab.)
ALBRECHT	92F	PL B278 202	+Ehrlichmann, Hamacher+	(ARGUS Collab.)
ANJOS	92	PR D45 R2177	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ANJOS	92C	PR D46 1941	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ANJOS	92D	PRL 69 2892	+Appel, Bean, Bediaga+	(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.)
DAOUDI	92	PR D45 3965	+Ford, Johnson, Lingel+	(CLEO Collab.)
FRABETTI	92	PL B281 167	+Bogart, Cheung, Culy+	(FNAL E687 Collab.)
KODAMA	92	PL B274 246	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
KODAMA	92C	PL B286 187	+Ushida, Mokhtarani+	(FNAL E653 Collab.)
ADAMOVICH	91	PL B268 142	+Alexandrov, Antinori, Barberis+	(WA82 Collab.)
ALBRECHT	91	PL B255 634	+Ehrlichmann, Hamacher, Krueger+	(ARGUS Collab.)
ALVAREZ	91	PL B255 639	+Barate, Bloch, Bonamy+	(CERN NA14/2 Collab.)
ALVAREZ	91B	ZPHY C50 11	+Barate, Bloch, Bonamy+	(CERN NA14/2 Collab.)
AMMAR	91	PR D44 3383	+Baringer, Coppage, Davis+	(CLEO Collab.)
ANJOS	91B	PR D43 R2063	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ANJOS	91C	PRL 67 1507	+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.)
FRABETTI	91	PL B263 584	+Bogart, Cheung, Culy+	(FNAL E687 Collab.)
ALVAREZ	90	ZPHY C47 539	+Barate, Bloch, Bonamy+	(CERN NA14/2 Collab.)
ALVAREZ	90C	PL B246 261	+Barate, Bloch, Bonamy+	(CERN NA14/2 Collab.)

ANJOS	90C	PR D41 2705	+Appel, Bean+	(FNAL E691 Collab.)
ANJOS	90D	PR D42 2414	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ANJOS	90E	PRL 65 2630	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
BARLAG	90C	ZPHY C46 563	+Becker, Boehringer, Bosman+	(ACCMOR Collab.)
WEIR	90B	PR D41 1384	+Klein, Abrams, Adolphsen, Akerlof+	(Mark II Collab.)
ANJOS	89	PRL 62 125	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ANJOS	89B	PRL 62 722	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ANJOS	89E	PL B223 267	+Appel, Bean, Bracker+	(FNAL E691 Collab.)
ADLER	88B	PRL 60 1375	+Becker, Blaylock+	(Mark III Collab.)
ADLER	88C	PRL 60 89	+Becker, Blaylock+	(Mark III Collab.)
ALBRECHT	88I	PL B210 267	+Boeckmann, Glaeser+	(ARGUS Collab.)
ANJOS	88	PRL 60 897	+Appel+	(FNAL E691 Collab.)
AOKI	88	PL B209 113	+Arnold, Baroni+	(WA75 Collab.)
HAAS	88	PRL 60 1614	+Hempstead, Jensen+	(CLEO Collab.)
ONG	88	PRL 60 2587	+Weir, Abrams, Amidei+	(Mark II 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		
BARLAG	87B	ZPHY C37 17	+Becker, Boehringer, Bosman+	(ACCMOR Collab.)
BARTEL	87	ZPHY C33 339	+Becker, Felst, Haidt+	(JADE Collab.)
CSORNA	87	PL B191 318	+Mestayer, Panvini, Word+	(CLEO Collab.)
PALKA	87B	ZPHY C35 151	+Bailey, Becker+	(ACCMOR Collab.)
ABE	86	PR D33 1	+	(SLAC Hybrid Facility Photon Collab.)
AGUILAR-...	86B	ZPHY C31 491	Aguilar-Benitez, Allison+	(LEBC-EHS Collab.)
BALTRUSAIT...	86E	PRL 56 2140	Baltrusaitis, Becker, Blaylock, Brown+	(Mark III Collab.)
PAL	86	PR D33 2708	+Atwood, Barish, Bonneaud+	(DELCO Collab.)
AIHARA	85	ZPHY C27 39	+Alston-Garnjost, Badtke, Bakken+	(TPC 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.)
BARTEL	85J	PL 163B 277	+Becker, Cords, Felst+	(JADE Collab.)
ADAMOVICH	84	PL 140B 119	+Alexandrov, Bolta, Bravo+	(CERN WA58 Collab.)
ALTHOFF	84G	ZPHY C22 219	+Braunschweig, Kirschfink+	(TASSO Collab.)
ALTHOFF	84J	PL 146B 443	+Branschweig, Kirschfink+	(TASSO Collab.)
DERRICK	84	PRL 53 1971	+Fernandez, Fries, Hyman+	(HRS Collab.)
KOOP	84	PRL 52 970	+Sakuda, Atwood, Baillon+	(DELCO Collab.)
PARTRIDGE	84	Thesis CALT-68-1150		(Crystal Ball Collab.)
AGUILAR-...	83B	PL 123B 98	Aguilar-Benitez, Allison+	(LEBC-EHS Collab.)
AUBERT	83	NP B213 31	+Bassompierre, Becks, Best+	(EMC Collab.)
PARTRIDGE	81	PRL 47 760	+Peck, Porter, Gu+	(Crystal Ball Collab.)
SCHINDLER	81	PR D24 78	+Alam, Boyarski, Breidenbach+	(Mark II Collab.)
TRILLING	81	PRPL 75 57		(LBL, UCB) J
BACINO	80	PRL 45 329	+Ferguson+	(DELCO Collab.)
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.		
BACINO	79	PRL 43 1073	+Ferguson, Nodulman+	(DELCO Collab.)
BRANDELIK	79	PL 80B 412	+Braunschweig, Martyn, Sander+	(DASP Collab.)
FELLER	78	PRL 40 274	+Litke, Madaras, Ronan+	(Mark I Collab.)
VUILLEMIN	78	PRL 41 1149	+Feldman, Feller+	(Mark I Collab.)
GOLDHABER	77	PL 69B 503	+Wiss, Abrams, Alam+	(Mark I Collab.)
PERUZZI	77	PRL 39 1301	+Piccolo, Feldman+	(Mark I Collab.)
PICCOLO	77	PL 70B 260	+Peruzzi, Luth, Nguyen, Wiss, Abrams+	(Mark I Collab.)
RAPIDIS	77	PRL 39 526	+Gobbi, Luke, Barbaro-Galtieri+	(Mark I Collab.)
PERUZZI	76	PRL 37 569	+Piccolo, Feldman, Nguyen, Wiss+	(Mark I Collab.)

OTHER RELATED PAPERS

RICHMAN	95	RMP 67 893	+Burchat	(UCSB, STAN)
ROSNER	95	CNPP 21 369		(CHIC)