CHARMED MESONS ($C = \pm 1$)

$D^+ = c\overline{d}$, $D^0 = c\overline{u}$, $\overline{D}^0 = \overline{c}u$, $D^- = \overline{c}d$, similarly for D^*'s

$D^\pm$

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

Mass $m = 1869.66 \pm 0.05$ MeV
Mean life $\tau = (1033 \pm 5) \times 10^{-15}$ s
$c\tau = 309.8$ μm

c-quark decays

$\Gamma(c \to \ \ell^+ \text{anything})/\Gamma(c \to \ \text{anything}) = 0.096 \pm 0.004$ [a]
$\Gamma(c \to \ D^*(2010)^+ \text{anything})/\Gamma(c \to \ \text{anything}) = 0.255 \pm 0.017$

CP-violation decay-rate asymmetries

$A_{CP}(\mu^\pm\nu) = (8 \pm 8)\%$
$A_{CP}(K^0_L e^\pm \nu) = (-0.6 \pm 1.6)\%$
$A_{CP}(K^0_S \pi^\pm) = (-0.41 \pm 0.09)\%$
$A_{CP}(K^0_L K^\pm)$ in $D^\pm \to \ K^0_L K^\pm = (-4.2 \pm 3.4) \times 10^{-2}$
$A_{CP}(K^\mp 2\pi^\pm) = (-0.18 \pm 0.16)\%$
$A_{CP}(K^\mp \pi^\pm \pi^\pm \pi^0) = (-0.3 \pm 0.7)\%$
$A_{CP}(K^0_S \pi^\pm \pi^0) = (-0.1 \pm 0.7)\%$
$A_{CP}(K^0_S \pi^\pm \eta)$ in $D^\pm \to \ K^0_S \pi^\pm \eta = (-0.9 \pm 3.1) \times 10^{-2}$
$A_{CP}(K^0_S \pi^\pm \pi^+ \pi^-) = (0.0 \pm 1.2)\%$
$A_{CP}(K^\pm \pi^+ \pi^- \pi^0)$ in $D^\pm \to \ K^\pm \pi^+ \pi^- \pi^0 = -0.04 \pm 0.06$
$A_{CP}(\pi^\pm \pi^0) = (-0.5 \pm 1.0)\%$ (S = 1.7)
$A_{CP}(\pi^\pm \eta) = (0.3 \pm 0.5)\%$
$A_{CP}(\pi^\pm \pi^0 \eta)$ in $D^\pm \to \ \pi^\pm \pi^0 \eta = (-6 \pm 7) \times 10^{-2}$
$A_{CP}(\pi^\pm \eta\eta)$ in $D^\pm \to \ \pi^\pm \eta\eta = (8 \pm 9) \times 10^{-2}$
$A_{CP}(\pi^\pm \eta'(958)) = (0.41 \pm 0.23)\%$ (S = 1.2)
$A_{CP}(\overline{K}^0 / K^0 K^\pm) = (0.11 \pm 0.17)\%$
$A_{CP}(K^0_S K^\pm) = (-0.01 \pm 0.07)\%$
$A_{CP}(K^0_S K^\pm \pi^0)$ in $D^\pm \to \ K^0_S K^\pm \pi^0 = (1 \pm 4) \times 10^{-2}$
$A_{CP}(K^0_L K^\pm \pi^0)$ in $D^\pm \to \ K^0_L K^\pm \pi^0 = (-1 \pm 4) \times 10^{-2}$
$A_{CP}(K^+ K^- \pi^\pm) = (0.37 \pm 0.29)\%$
$A_{CP}(K^\pm K^{*0}) = (-0.3 \pm 0.4)\%$
$A_{CP|S}(K^+ \overline{K}^{*0})$ in $D^\pm \to \ K^- K^+ \pi^\pm = (-0.3 \pm 0.6) \times 10^{-3}$
$A_{CP}(\phi\pi^\pm) = (0.01 \pm 0.09)\%$ (S = 1.8)
$A_{CP|S}(\phi\pi^+)$ in $D^\pm \to \ K^- K^+ \pi^\pm = (1.0 \pm 0.5) \times 10^{-3}$
$A_{CP}(K^\pm K^*_0(1430)^0) = (8^{+7}_{-6})\%$

$A_{CP}(K^{\pm}K_2^*(1430)^0) = (43^{+20}_{-26})\%$
$A_{CP}(K^{\pm}K_0^*(700)) = (-12^{+18}_{-13})\%$
$A_{CP}(a_0(1450)^0\pi^{\pm}) = (-19^{+14}_{-16})\%$
$A_{CP}(\phi(1680)\pi^{\pm}) = (-9 \pm 26)\%$
$A_{CP}(\pi^{\pm}2\pi^0)$ in $D^{\pm} \to \pi^{\pm}2\pi^0 = (5.6 \pm 2.7)\%$
$A_{CP}(\pi^+\pi^-\pi^{\pm}) = (0.5 \pm 2.0)\%$
$A_{CP}(2\pi^{\pm}\pi^{\mp}\pi^0)$ in $D^{\pm} \to 2\pi^{\pm}\pi^{\mp}\pi^0 = (0.3 \pm 2.0)\%$
$A_{CP}(2\pi^{\pm}\pi^{\mp}2\pi^0)$ in $D^{\pm} \to 2\pi^{\pm}\pi^{\mp}2\pi^0 = (-4 \pm 4)\%$
$A_{CP}(\pi^+\pi^-\pi^{\pm}\eta)$ in $D^{\pm} \to \pi^+\pi^-\pi^{\pm}\eta = (3 \pm 5) \times 10^{-2}$
$A_{CP}(K^0_S K^{\pm}\pi^+\pi^-) = (-4 \pm 7)\%$
$A_{CP}(K^{\pm}\pi^0) = (-3 \pm 5)\%$
$A_{CP}(K^{\pm}\eta)$ in $D^{\pm} \to K^{\pm}\eta = (-6 \pm 11) \times 10^{-2}$

χ^2 tests of *CP*-violation (*CPV*)

Local *CPV* in $D^{\pm} \to \pi^+\pi^-\pi^{\pm} = 78.1\%$
Local *CPV* in $D^{\pm} \to K^+K^-\pi^{\pm} = 31\%$
Local *CPV* in $D^{\pm} \to K^+K^-K^{\pm} = 31.6\%$

CP violating asymmetries of *P*-odd (*T*-odd) moments

$A_T(K^0_S K^{\pm}\pi^+\pi^-) = (-3 \pm 8) \times 10^{-3}$ [b] (S = 1.1)
$A_{Tviol}(K^0_S K^{\mp}\pi^{\pm}\pi^{\pm})$ in $D^{\pm} \to K^0_S K^{\mp}\pi^{\pm}\pi^{\pm} = (-2 \pm 5) \times 10^{-3}$
$A_{Tviol}(K^+K^-K^0_S\pi^{\pm})$ in $D^{\pm} \to K^+K^-K^0_S\pi^{\pm} = (-3.3 \pm 2.7)\%$

D^+ form factors

$f_+(0)|V_{cs}|$ in $\overline{K}^0\ell^+\nu_\ell = 0.7163 \pm 0.0033$
$r_1 \equiv a_1/a_0$ in $\overline{K}^0\ell^+\nu_\ell = -2.13 \pm 0.14$
$r_2 \equiv a_2/a_0$ in $\overline{K}^0\ell^+\nu_\ell = -3 \pm 12$ (S = 1.5)
$f_+(0)|V_{cd}|$ in $\pi^0\ell^+\nu_\ell = 0.1407 \pm 0.0025$
$r_1 \equiv a_1/a_0$ in $\pi^0\ell^+\nu_\ell = -2.00 \pm 0.13$
$r_2 \equiv a_2/a_0$ in $\pi^0\ell^+\nu_\ell = -4 \pm 5$
$f_+(0)|V_{cd}|$ in $D^+ \to \eta\ell^+\nu_\ell$ ($\ell = e$ or ν) $= (8.4 \pm 0.4) \times 10^{-2}$
$f_+^{\eta'}(0)|V_{cd}|$ in $D^+ \to \eta'\ell^+\nu_\ell$ ($\ell = e, \nu$) $= (5.9 \pm 0.6) \times 10^{-2}$
$r_1 \equiv a_1/a_0$ in $D^+ \to \eta e^+\nu_e = -5.3 \pm 2.7$ (S = 1.9)
$r_v \equiv V(0)/A_1(0)$ in $D^+ \to \omega e^+\nu_e = 1.24 \pm 0.11$
$r_2 \equiv A_2(0)/A_1(0)$ in $D^+ \to \omega e^+\nu_e = 1.06 \pm 0.16$
$r_v \equiv V(0)/A_1(0)$ in $D^+, D^0 \to \rho e^+\nu_e = 1.53 \pm 0.08$
$r_2 \equiv A_2(0)/A_1(0)$ in $D^+, D^0 \to \rho e^+\nu_e = 0.82 \pm 0.05$
$r_v \equiv V(0)/A_1(0)$ in $\overline{K}^*(892)^0\ell^+\nu_\ell = 1.47 \pm 0.04$ (S = 2.0)
$r_2 \equiv A_2(0)/A_1(0)$ in $\overline{K}^*(892)^0\ell^+\nu_\ell = 0.786 \pm 0.018$
$r_3 \equiv A_3(0)/A_1(0)$ in $\overline{K}^*(892)^0\ell^+\nu_\ell = 0.0 \pm 0.4$
Γ_L/Γ_T in $\overline{K}^*(892)^0\ell^+\nu_\ell = 1.13 \pm 0.08$
Γ_+/Γ_- in $\overline{K}^*(892)^0\ell^+\nu_\ell = 0.22 \pm 0.06$ (S = 1.6)
$r_V \equiv V_2(0)/V_1(0)$ in $D \to K_1(1270)e^+\nu_e = (-4.3 \pm 2.7) \times 10^{-2}$
$r_A \equiv A(0)/V_1(0)$ in $D \to K_1(1270)e^+\nu_e = (-11.2 \pm 1.3) \times 10^{-2}$

Most decay modes (other than the semileptonic modes) that involve a neutral K meson are now given as K^0_S modes, not as $\overline{K}^0$ modes. Nearly always it is a K^0_S that is measured, and interference between Cabibbo-allowed and doubly Cabibbo-suppressed modes can invalidate the assumption that $2\,\Gamma(K^0_S) = \Gamma(\overline{K}^0)$.

D^+ DECAY MODES	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)
Inclusive modes			
e^+ semileptonic	(16.07 ± 0.30) %		–
μ^+ anything	(17.6 ± 3.2) %		–
K^- anything	(25.7 ± 1.4) %		–
K^0_S anything	(33.1 ± 0.4) %		–
K^+ anything	(5.9 ± 0.8) %		–
$K^*(892)^-$ anything	(6 ± 5) %		–
$\overline{K}^*(892)^0$ anything	(23 ± 5) %		–
$K^*(892)^0$ anything	< 6.6 %	CL=90%	–
η anything	(6.3 ± 0.7) %		–
η' anything	(1.04 ± 0.18) %		–
ϕ anything	(1.12 ± 0.04) %		–
$\pi^+\pi^+\pi^-$ anything	(15.25 ± 0.20) %		–
Leptonic and semileptonic modes			
$e^+\nu_e$	< 9.7 $\times 10^{-7}$	CL=90%	935
$\gamma\, e^+\nu_e$	< 1.2 $\times 10^{-5}$	CL=90%	935
$\mu^+\nu_\mu$	(4.02 ± 0.09) $\times 10^{-4}$		932
$\tau^+\nu_\tau$	(9.9 ± 1.2) $\times 10^{-4}$		90
$\overline{K}^0\, e^+\nu_e$	(8.81 ± 0.07) %		869
$\overline{K}^0\,\mu^+\nu_\mu$	(8.68 ± 0.10) %		865
$K^0_S\,\pi^0\, e^+\nu_e$	(9.43 ± 0.16) $\times 10^{-3}$		863
$(K^0_S\,\pi^0)_{S-wave}\, e^+\nu_e$	(6.03 ± 0.23) $\times 10^{-4}$		863
$\overline{K}^*(892)^0\, e^+\nu_e$, $\overline{K}^{*0} \to K^0_S\,\pi^0$	(8.82 ± 0.15) $\times 10^{-3}$		–
$K^-\pi^+\, e^+\nu_e$	(4.00 ± 0.17) %	S=3.1	864
$\overline{K}^*(892)^0\, e^+\nu_e$, $\overline{K}^*(892)^0 \to K^-\pi^+$	(3.75 ± 0.16) %		722
$(K^-\pi^+)_{[0.8\text{–}1.0]\text{GeV}}\, e^+\nu_e$	(3.39 ± 0.09) %		864
$(K^-\pi^+)_{S-wave}\, e^+\nu_e$	(2.28 ± 0.11) $\times 10^{-3}$		–
$\overline{K}^*(1410)^0\, e^+\nu_e$, $\overline{K}^*(1410)^0 \to K^-\pi^+$	< 6 $\times 10^{-3}$	CL=90%	–
$\overline{K}^*_2(1430)^0\, e^+\nu_e$, $\overline{K}^*_2(1430)^0 \to K^-\pi^+$	< 5 $\times 10^{-4}$	CL=90%	–
$K^-\pi^+\, e^+\nu_e$ nonresonant	< 7 $\times 10^{-3}$	CL=90%	864
$\overline{K}^*(892)^0\, e^+\nu_e$	(5.40 ± 0.10) %	S=1.1	722

$K^0_S\pi^0\mu^+\nu_\mu$	(8.96 ± 0.19) × 10^{-3}			851
$(K^0_S\pi^0)_{S-wave}\mu^+\nu_\mu$	(6.4 ± 0.7) × 10^{-4}			851
$\overline{K}^*(892)^0\mu^+\nu_\mu$, $\overline{K}^{*0}\to K^0_S\pi^0$	(8.32 ± 0.19) × 10^{-3}			–
$K^-\pi^+\mu^+\nu_\mu$	(3.62 ± 0.33) %			851
$\overline{K}^*(892)^0\mu^+\nu_\mu$, $\overline{K}^*(892)^0\to K^-\pi^+$	(3.52 ± 0.10) %			717
$K^-\pi^+\mu^+\nu_\mu$ nonresonant	(1.9 ± 0.5) × 10^{-3}			851
$\overline{K}^*(892)^0\mu^+\nu_\mu$	(5.26 ± 0.15) %		S=1.1	717
$\overline{K}_1(1270)^0e^+\nu_e$, $\overline{K}^0_1\to K^-\pi^+\pi^0$	(1.23 ± 0.08) × 10^{-3}		S=1.3	–
$\overline{K}_1(1270)^0e^+\nu_e$, $\overline{K}^0_1\to K^0_S\pi^+\pi^-$	(1.5 $^{+0.5}_{-0.4}$) × 10^{-4}			–
$K^-\pi^+\pi^0\mu^+\nu_\mu$	< 1.5	× 10^{-3}	CL=90%	825
$\overline{K}_1(1270)^0\mu^+\nu_\mu$, $\overline{K}^0_1\to K^-\pi^+\pi^0$	(1.09 $^{+0.12}_{-0.16}$) × 10^{-3}			–
$\overline{K}_1(1400)^0e^+\nu_e$	< 1.4	× 10^{-4}	CL=90%	409
$\overline{K}^*_0(1430)^0\mu^+\nu_\mu$	< 2.3	× 10^{-4}	CL=90%	380
$\overline{K}^*(1680)^0\mu^+\nu_\mu$	< 1.4	× 10^{-3}	CL=90%	105
$\pi^0e^+\nu_e$	(3.72 ± 0.17) × 10^{-3}		S=2.0	930
$\pi^0\mu^+\nu_\mu$	(3.50 ± 0.15) × 10^{-3}			927
$\eta e^+\nu_e$	(1.11 ± 0.07) × 10^{-3}			855
$\eta\mu^+\nu_\mu$	(1.04 ± 0.11) × 10^{-3}			851
$\pi^-\pi^+e^+\nu_e$	(2.45 ± 0.08) × 10^{-3}			924
$f_0(500)^0e^+\nu_e$, $f_0(500)^0\to\pi^+\pi^-$	(6.2 ± 0.4) × 10^{-4}			–
$\rho^0e^+\nu_e$	(1.87 ± 0.06) × 10^{-3}			774
$f_0(500)^0\mu^+\nu_\mu$, $f^0_0\to\pi^+\pi^-$	(7.2 ± 1.5) × 10^{-4}			–
$\rho^0\mu^+\nu_\mu$	(1.64 ± 0.16) × 10^{-3}			770
$\omega e^+\nu_e$	(1.69 ± 0.11) × 10^{-3}			771
$\omega\mu^+\nu_\mu$	(1.77 ± 0.21) × 10^{-3}			767
$\eta'(958)e^+\nu_e$	(1.84 ± 0.19) × 10^{-4}			690
$\eta'(958)\mu^+\nu_\mu$	(1.92 ± 0.29) × 10^{-4}			684
$a(980)^0e^+\nu_e$, $a(980)^0\to\eta\pi^0$	(1.7 $^{+0.8}_{-0.7}$) × 10^{-4}			–
$K^0_SK^0_Se^+\nu_e$	< 1.54	× 10^{-5}	CL=90%	791
$K^0_S\eta e^+\nu_e$	< 2.0	× 10^{-4}	CL=90%	775
$\eta\eta e^+\nu_e$	< 1.0	× 10^{-4}	CL=90%	757
$K^+K^-e^+\nu_e$	< 2.10	× 10^{-5}	CL=90%	794
$b_1(1235)^0e^+\nu_e$, $b^0_1\to\omega\pi^0$	< 1.75	× 10^{-4}	CL=90%	–
$\phi e^+\nu_e$	< 1.3	× 10^{-5}	CL=90%	657

$D^0 e^+ \nu_e$		$< 1.0 \times 10^{-4}$	CL=90%	5

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

$K^0_S \pi^+$		(1.554 ± 0.033) %	S=1.8	863
$K^0_L \pi^+$		(1.46 ± 0.05) %		863
$K^- 2\pi^+$	[c]	(9.31 ± 0.14) %	S=1.4	846
$(K^-\pi^+)_{S-\text{wave}}\pi^+$		(7.46 ± 0.16) %		846
$\overline{K}^*_0(1430)^0\pi^+$, $\overline{K}^*_0(1430)^0 \to K^-\pi^+$	[d]	(1.24 ± 0.06) %		382
$\overline{K}^*(892)^0\pi^+$, $\overline{K}^*(892)^0 \to K^-\pi^+$		(1.03 ± 0.11) %		714
$\overline{K}^*(1410)^0\pi^+$, $\overline{K}^{*0} \to K^-\pi^+$		not seen		381
$\overline{K}^*_2(1430)^0\pi^+$, $\overline{K}^*_2(1430)^0 \to K^-\pi^+$	[d]	$(2.2 \pm 0.7) \times 10^{-4}$		371
$\overline{K}^*(1680)^0\pi^+$, $\overline{K}^*(1680)^0 \to K^-\pi^+$	[d]	$(2.2 \pm 1.1) \times 10^{-4}$		58
$K^-(2\pi^+)_{I=2}$		(1.44 ± 0.26) %		–
$K^0_S \pi^+\pi^0$	[c]	(7.31 ± 0.20) %		845
$K^0_S \rho^+$		$(6.10 \,^{+\,0.60}_{-\,0.35})$ %		677
$K^0_S \rho(1450)^+$, $\rho^+ \to \pi^+\pi^0$		$(1.5 \,^{+\,1.2}_{-\,1.4}) \times 10^{-3}$		–
$\overline{K}^*(892)^0\pi^+$, $\overline{K}^*(892)^0 \to K^0_S\pi^0$		$(2.62 \pm 0.32) \times 10^{-3}$		714
$\overline{K}^*_0(1430)^0\pi^+$, $\overline{K}^{*0}_0 \to K^0_S\pi^0$		$(2.7 \pm 0.9) \times 10^{-3}$		–
$\overline{K}^*_0(1680)^0\pi^+$, $\overline{K}^{*0}_0 \to K^0_S\pi^0$		$(10 \,^{+\,7}_{-\,10}) \times 10^{-4}$		–
$\overline{\kappa}^0\pi^+$, $\overline{\kappa}^0 \to K^0_S\pi^0$		$(6 \,^{+\,5}_{-\,4}) \times 10^{-3}$		–
$K^0_S \pi^+\pi^0$ nonresonant		$(3 \pm 4) \times 10^{-3}$		845
$K^0_S \pi^+\pi^0$ nonresonant and $\overline{\kappa}^0\pi^+$		$(1.36 \,^{+\,0.21}_{-\,0.40})$ %		–
$(K^0_S\pi^0)_{S-\text{wave}}\pi^+$		$(1.26 \,^{+\,0.27}_{-\,0.33})$ %		845
$K^0_S \pi^+\omega$		$(7.1 \pm 0.5) \times 10^{-3}$		606
$K^0_S \pi^+\eta$		(1.27 ± 0.05) %		722
$K^0_S a_0(980)^+$, $a^+_0 \to \pi^+\eta$		(1.33 ± 0.06) %		–
$\overline{K}^*_0(1430)^0\pi^+$, $\overline{K}^*_0 \to K^0_S\eta$		$(1.38 \pm 0.26) \times 10^{-3}$		–
$K^0_S \pi^+\eta'(958)$		$(1.90 \pm 0.21) \times 10^{-3}$		481
$K^- 2\pi^+\pi^0$	[e]	(6.35 ± 0.08) %		817
$\overline{K}^*(892)^0\rho(770)^+$, $\overline{K}^{*0} \to K^-\pi^+$, $\rho^+ \to \pi^0\pi^+$		(4.34 ± 0.19) %		–

$\overline{K}_1(1270)^0\pi^+$, $\overline{K}_1^0 \to K^-\rho(770)^+$, $\rho^+ \to \pi^+\pi^0$		(2.41 ± 0.27) × 10^{-3}		–
$\overline{K}_1(1400)^0\pi^+$, $\overline{K}_1^0 \to \overline{K}^*(892)\pi$, $\overline{K}^* \to K^-\pi$		(4.64 ± 0.24) × 10^{-3}		–
$\overline{K}(1460)^0\pi^+$, $\overline{K}(1460)^0 \to \overline{K}^*(892)\pi$, $\overline{K}^* \to K^-\pi$		(3.24 ± 0.23) × 10^{-3}		–
$\overline{K}^*(1680)^0\pi^+$, $\overline{K}^{*0} \to \overline{K}^*(892)\pi$, $\overline{K}^* \to K^-\pi$		(2.4 ± 0.6) × 10^{-3}		–
$(K^-\pi^+)_{S-wave}\rho(770)^+$, $\rho^+ \to \pi^+\pi^0$		(1.16 ± 0.06) %		–
$\overline{K}(1460)^0\pi^+$, $\overline{K}(1460)^0 \to K^-(\pi^+\pi^0)_{L=1}$		(5.5 ± 0.6) × 10^{-3}		–
$\overline{K}(1460)^0\pi^+$, $\overline{K}(1460)^0 \to (K^-\pi)_{L=1}\pi$		(2.2 ± 0.4) × 10^{-3}		–
$(K^-\rho(770)^+)_{L=1}\pi^+$, $\rho^+ \to \pi^+\pi^0$		(1.14 ± 0.09) × 10^{-3}		–
$(\overline{K}^*(892)\pi)_{L=1}\pi^+$, $\overline{K}^* \to K^-\pi$		(5.1 ± 0.9) × 10^{-4}		–
$(\overline{K}^*(892)^0\pi^+)_{L=1}\pi^0$, $\overline{K}^{*0} \to K^-\pi^+$		(5.1 ± 2.8) × 10^{-4}		–
$(K^-(\pi^+\pi^0)_{L=0})_{L=1}\pi^+$		(5.1 ± 1.8) × 10^{-4}		–
$(K^-\pi^+)_{L=1}\rho(770)^+$, $\rho^+ \to \pi^+\pi^0$		(3.2 ± 0.9) × 10^{-4}		–
$K_S^0 2\pi^+\pi^-$	[e]	(3.08 ± 0.08) %		814
$K_S^0\pi^+ 2\pi^0$		(2.89 ± 0.09) %		817
$K_S^0 a_1(1260)^+$, $a_1^+ \to \rho(770)^+\pi^0$		(8.7 ± 1.6) × 10^{-3}		–
$K_S^0 a_1(1260)^+$, $a_1^+ \to f_0(500)\pi^+$, $f_0 \to \pi^0\pi^0$		(1.0 ± 0.6) × 10^{-3}		–
$\overline{K}_1(1400)^0\pi^+$, $\overline{K}_1^0 \to \overline{K}^*(892)^0\pi^0$, $\overline{K}^{*0} \to K_S^0\pi^0$		(2.3 ± 0.4) × 10^{-3}		–
$\overline{K}^*(892)^0\rho^+$, $\overline{K}^{*0} \to K_S^0\pi^0$		(9.7 ± 0.9) × 10^{-3}		–
$\overline{K}^*(892)^0\pi^+\pi^0$ non-resonant, $\overline{K}^{*0} \to K_S^0\pi^0$		(2.6 ± 0.7) × 10^{-3}		–
$K_S^0\rho^+\pi^0$ non-resonant		(4.8 ± 0.5) × 10^{-3}		–
$K^-2\pi^+\eta$		(1.35 ± 0.12) × 10^{-3}		657
$K_S^0\pi^+\pi^0\eta$		(1.22 ± 0.25) × 10^{-3}		657
$K^-3\pi^+\pi^-$	[c]	(5.7 ± 0.5) × 10^{-3}	S=1.1	772
$\overline{K}^*(892)^0 2\pi^+\pi^-$, $\overline{K}^*(892)^0 \to K^-\pi^+$		(1.2 ± 0.4) × 10^{-3}		645
$\overline{K}^*(892)^0\rho^0\pi^+$, $\overline{K}^*(892)^0 \to K^-\pi^+$		(2.3 ± 0.4) × 10^{-3}		239

$\overline{K}^*(892)^0 a_1(1260)^+$	[f]	(9.2 ± 1.8) × 10^{-3}		†
$K^- \rho^0 2\pi^+$		(1.70 ± 0.28) × 10^{-3}		524
$K^- 3\pi^+ \pi^-$ nonresonant		(4.0 ± 2.9) × 10^{-4}		772
$K^0_S 2\pi^+ \pi^- \pi^0$		(1.53 ± 0.08) %		773
$K^0_S \pi^+ 3\pi^0$		(5.5 ± 0.5) × 10^{-3}		776
$K^- 2\pi^+ 2\pi^0$		(4.95 ± 0.32) × 10^{-3}		776
$K^- 3\pi^+ \pi^- \pi^0$		(6.6 ± 0.8) × 10^{-4}		718
$K^+ 2K^0_S$		(2.54 ± 0.13) × 10^{-3}		545
$K^+ K^- K^0_S \pi^+$		(2.4 ± 0.5) × 10^{-4}		436

Pionic modes

$\pi^+ \pi^0$		(1.243± 0.033) × 10^{-3}		925
$2\pi^+ \pi^-$		(3.27 ± 0.09) × 10^{-3}		909
$\rho^0 \pi^+$		(8.4 ± 0.8) × 10^{-4}		767
$\pi^+ (\pi^+ \pi^-)_{S-\text{wave}}$		(2.01 ± 0.06) × 10^{-3}		909
$\sigma \pi^+$, $\sigma \to \pi^+ \pi^-$		(1.38 ± 0.10) × 10^{-3}		–
$f_0(980) \pi^+$, $f_0 \to \pi^+ \pi^-$		(1.57 ± 0.32) × 10^{-4}		669
$f_0(1370) \pi^+$, $f_0 \to \pi^+ \pi^-$		(8 ± 4) × 10^{-5}		–
$\omega \pi^+$, $\omega \to \pi^+ \pi^-$		(3.4 ± 0.5) × 10^{-6}		–
$f_2(1270) \pi^+$, $f_2 \to \pi^+ \pi^-$		(4.58 ± 0.28) × 10^{-4}		485
$\rho(1450)^0 \pi^+$, $\rho^0 \to \pi^+ \pi^-$		(1.8 ± 0.5) × 10^{-4}		338
$\rho(1700)^0 \pi^+$, $\rho^0 \to \pi^+ \pi^-$		(1.9 ± 0.5) × 10^{-4}		–
$f_0(1500) \pi^+$, $f_0 \to \pi^+ \pi^-$		(1.1 ± 0.4) × 10^{-4}		–
$f_0(1710) \pi^+$, $f_0 \to \pi^+ \pi^-$		< 5 × 10^{-5}	CL=95%	–
$f_0(1790) \pi^+$, $f_0 \to \pi^+ \pi^-$		< 7 × 10^{-5}	CL=95%	–
$(\pi^+ \pi^+)_{S-\text{wave}} \pi^-$		< 1.2 × 10^{-4}	CL=95%	909
$2\pi^+ \pi^-$ nonresonant		< 1.1 × 10^{-4}	CL=95%	909
$\pi^+ 2\pi^0$		(4.61 ± 0.15) × 10^{-3}		910
$2\pi^+ \pi^- \pi^0$		(1.165± 0.030) %		883
$\pi^+ 3\pi^0$		(4.17 ± 0.26) × 10^{-3}		885
$\pi^+ 4\pi^0$		(1.9 ± 0.4) × 10^{-3}		851
$2\pi^+ \pi^- 2\pi^0$		(1.07 ± 0.05) %		848
$3\pi^+ 2\pi^-$		(1.64 ± 0.16) × 10^{-3}	S=1.1	845
$2\pi^+ \pi^- 3\pi^0$		(3.42 ± 0.35) × 10^{-3}		803
$3\pi^+ 2\pi^- \pi^0$		(2.34 ± 0.27) × 10^{-3}		799
$\eta \pi^+$		(3.75 ± 0.09) × 10^{-3}		848
$\eta \pi^+ \pi^0$		(2.05 ± 0.35) × 10^{-3}	S=2.2	831
$\rho(770)^+ \eta$, $\rho^+ \to \pi^+ \pi^0$		(1.9 ± 0.8) × 10^{-4}		–
$a_0(980)^+ \pi^0$, $a_0^+ \to \pi^+ \eta$		(9.0 ± 1.9) × 10^{-4}		–
$a_0(980)^0 \pi^+$, $a_0^0 \to \pi^0 \eta$		(3.5 ± 1.1) × 10^{-4}		–
$a_2(1700)^+ \pi^0$, $a_2^+ \to \pi^+ \eta$		(9 ± 5) × 10^{-5}		–
$a_0(1450)^+ \pi^0$, $a_0^+ \to \pi^+ \eta$		(1.4 ± 0.6) × 10^{-4}		–
$\eta 2\pi^+ \pi^-$		(3.41 ± 0.20) × 10^{-3}		798
$\eta \pi^+ 2\pi^0$		(3.20 ± 0.33) × 10^{-3}		801

$\eta\pi^+3\pi^0$		$(2.9 \pm 0.5) \times 10^{-3}$		759
$\eta 2\pi^+\pi^-\pi^0$		$(3.88 \pm 0.34) \times 10^{-3}$		755
$\eta\eta\pi^+$		$(2.96 \pm 0.26) \times 10^{-3}$		700
$\omega\pi^+$		$(2.8 \pm 0.6) \times 10^{-4}$		764
$\omega\pi^+\pi^0$		$(3.9 \pm 0.9) \times 10^{-3}$		742
$\eta'(958)\pi^+$		$(4.96 \pm 0.18) \times 10^{-3}$		681
$\eta'(958)\pi^+\pi^0$		$(1.6 \pm 0.5) \times 10^{-3}$		654

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

$K^0_S K^+$		$(3.02 \pm 0.09) \times 10^{-3}$	S=2.2	793
$K^0_L K^+$		$(3.21 \pm 0.16) \times 10^{-3}$		793
$K^0_S K^+\pi^0$		$(5.07 \pm 0.30) \times 10^{-3}$		744
$K^*(892)^+ K^0_S$, $K^{*+} \to K^+\pi^0$		$(2.89 \pm 0.30) \times 10^{-3}$		612
$\overline{K}^*(892)^0 K^+$, $\overline{K}^{*0} \to K^0_S\pi^0$		$(5.2 \pm 1.4) \times 10^{-4}$		613
$K^0_L K^+\pi^0$		$(5.24 \pm 0.31) \times 10^{-3}$		744
$K^+K^-\pi^+$	[c]	$(9.61 \pm 0.17) \times 10^{-3}$		744
$K^+\overline{K}^*(892)^0$, $\overline{K}^*(892)^0 \to K^-\pi^+$		$(2.47 \,^{+\,0.08}_{-\,0.13}) \times 10^{-3}$		613
$K^+\overline{K}^*_0(1430)^0$, $\overline{K}^*_0(1430)^0 \to K^-\pi^+$		$(1.81 \pm 0.34) \times 10^{-3}$		–
$K^+\overline{K}^*_2(1430)^0$, $\overline{K}^*_2 \to K^-\pi^+$		$(1.6 \,^{+\,1.2}_{-\,0.8}) \times 10^{-4}$		–
$K^+\overline{K}^*_0(700)$, $\overline{K}^*_0 \to K^-\pi^+$		$(6.7 \,^{+\,3.5}_{-\,2.1}) \times 10^{-4}$		–
$a_0(1450)^0\pi^+$, $a^0_0 \to K^+K^-$		$(4.4 \,^{+\,7.0}_{-\,1.8}) \times 10^{-4}$		–
$\phi(1680)\pi^+$, $\phi \to K^+K^-$		$(4.9 \,^{+\,4.0}_{-\,1.9}) \times 10^{-5}$		–
$\phi\pi^+$, $\phi \to K^+K^-$		$(2.67 \,^{+\,0.06}_{-\,0.08}) \times 10^{-3}$		647
$\phi\pi^+$		$(5.70 \pm 0.14) \times 10^{-3}$		647
$K^+K^-\pi^+\pi^0$		$(6.62 \pm 0.32) \times 10^{-3}$		682
$K^0_S K^0_S\pi^+$		$(2.97 \pm 0.10) \times 10^{-3}$		741
$K^0_S K^*(892)^+$, $K^{*+} \to K^0_S\pi^+$		$(2.90 \pm 0.11) \times 10^{-3}$		–
$K^0_S(K^0_S\pi^+) \to K^0_S K^0_S\pi^+$		$(1.31 \pm 0.34) \times 10^{-4}$		–
$K^0_S K^0_S\pi^+\pi^0$		$(1.34 \pm 0.21) \times 10^{-3}$		679
$K^0_S K^+\pi^+\pi^-\pi^0$		$(2.5 \pm 0.4) \times 10^{-4}$		602
$K^0_S K^+\omega$		$(2.0 \pm 0.4) \times 10^{-4}$		293
$K^0_S K^+\eta$		$(2.27 \pm 0.23) \times 10^{-4}$		516
$K^+K^0_S\pi^+\pi^-$		$(1.89 \pm 0.13) \times 10^{-3}$		678
$K^0_S K^+\pi^0\pi^0$		$(5.8 \pm 1.3) \times 10^{-4}$		683

$K^0_S K^- 2\pi^+$	$(2.27 \pm 0.13) \times 10^{-3}$		678
$K^+ K^- 2\pi^+ \pi^-$	$(6.7 \pm 1.1) \times 10^{-5}$		601
$\phi 2\pi^+ \pi^-$	$(5.4 \pm 1.9) \times 10^{-5}$		566

A few poorly measured branching fractions:

$\phi \pi^+ \pi^0$	(2.3 ± 1.0) %		619
$\phi \rho^+$	< 1.5 %	CL=90%	260
$K^+ K^- \pi^+ \pi^0$ non-ϕ	$(1.5 \, {}^{+\,0.7}_{-\,0.6})$ %		682

Radiative modes

$\rho(770)^+ \gamma$	$< 1.3 \times 10^{-5}$	CL=90%	–
$K^*(892)^+ \gamma$	$< 1.8 \times 10^{-5}$	CL=90%	722

Doubly Cabibbo-suppressed modes

$K^+ \pi^0$	$(1.54 \pm 0.13) \times 10^{-4}$	S=1.4	864
$K^+ \eta$	$(1.16 \pm 0.09) \times 10^{-4}$		776
$K^+ \eta'(958)$	$(1.88 \pm 0.14) \times 10^{-4}$		571
$K^+ 2\pi^0$	$(2.1 \pm 0.4) \times 10^{-4}$		847
$K^*(892)^+ \pi^0$	$(3.4 \pm 1.4) \times 10^{-4}$		714
$K^+ \pi^+ \pi^-$	$(4.88 \pm 0.08) \times 10^{-4}$	S=1.4	846
$K^+ \rho^0$	$(1.9 \pm 0.4) \times 10^{-4}$		679
$K^+ \eta \pi^0$	$(2.1 \pm 0.5) \times 10^{-4}$		726
$K^*(892)^+ \eta$	$(4.4 \, {}^{+\,1.8}_{-\,1.5}) \times 10^{-4}$		586
$K^*(892)^0 \pi^+$, $K^*(892)^0 \to K^+ \pi^-$	$(2.3 \pm 0.4) \times 10^{-4}$		714
$K^+ f_0(980)$, $f_0(980) \to \pi^+ \pi^-$	$(4.4 \pm 2.6) \times 10^{-5}$		–
$K^*_2(1430)^0 \pi^+$, $K^*_2(1430)^0 \to K^+ \pi^-$	$(3.9 \pm 2.6) \times 10^{-5}$		–
$K^+ \pi^+ \pi^-$ nonresonant	not seen		846
$K^+ \pi^+ \pi^- \pi^0$	$(1.21 \pm 0.09) \times 10^{-3}$		817
$K^+ \pi^+ \pi^- \pi^0$ nonresonant	$(1.10 \pm 0.07) \times 10^{-3}$		817
$K^+ \pi^+ \pi^- \eta$	$(1.56 \pm 0.22) \times 10^{-4}$		657
$K^+ (\pi^+ \pi^- \eta)_{non-\eta'}$	$(6.7 \pm 1.8) \times 10^{-5}$		–
$K^+ \omega$	$(5.7 \, {}^{+\,2.5}_{-\,2.1}) \times 10^{-5}$		675
$K^+ \eta \eta$	$(5.9 \pm 2.3) \times 10^{-5}$		475
$2K^+ K^-$	$(6.09 \pm 0.10) \times 10^{-5}$	S=1.3	550
$\phi(1020)^0 K^+$	$< 2.1 \times 10^{-5}$	CL=90%	–
$K^+ \phi(1020)$, $\phi \to K^+ K^-$	$(4.3 \pm 0.6) \times 10^{-6}$		–
$K^+ (K^+ K^-)_{S-wave}$	$(5.72 \pm 0.11) \times 10^{-5}$		550

$\Delta C = 1$ weak neutral current (*C1*) modes, or Lepton Family number (*LF*), or Lepton number (*L*), or Baryon number (B) violating modes

$\pi^+ e^+ e^-$	*C1*	$< 1.1 \times 10^{-6}$	CL=90%		930

$\pi^+\pi^0 e^+ e^-$			< 1.4		$\times 10^{-5}$	CL=90% 925
$\pi^+\phi,\ \phi \to\ e^+ e^-$		[g]	$(\ 1.7\ ^{+\ 1.4}_{-\ 0.9}\ ) \times 10^{-6}$			–
$\pi^+\mu^+\mu^-$	C1		< 6.7		$\times 10^{-8}$	CL=90% 918
$\pi^+\phi,\ \phi \to\ \mu^+\mu^-$		[g]	$(\ 1.8\ \pm\ 0.8\ ) \times 10^{-6}$			–
$\rho^+\mu^+\mu^-$	C1		< 5.6		$\times 10^{-4}$	CL=90% 757
$K^+ e^+ e^-$		[h]	< 8.5		$\times 10^{-7}$	CL=90% 870
$K^+\pi^0 e^+ e^-$			< 1.5		$\times 10^{-5}$	CL=90% 864
$K^0_S\pi^+ e^+ e^-$			< 2.6		$\times 10^{-5}$	CL=90% –
$K^0_S K^+ e^+ e^-$			< 1.1		$\times 10^{-5}$	CL=90% 792
$K^+\mu^+\mu^-$		[h]	< 5.4		$\times 10^{-8}$	CL=90% 856
$\pi^+ e^+\mu^-$	LF		< 2.1		$\times 10^{-7}$	CL=90% 927
$\pi^+ e^-\mu^+$	LF		< 2.2		$\times 10^{-7}$	CL=90% 927
$K^+ e^+\mu^-$	LF		< 7.5		$\times 10^{-8}$	CL=90% 866
$K^+ e^-\mu^+$	LF		< 1.0		$\times 10^{-7}$	CL=90% 866
$\pi^- 2e^+$	L		< 5.3		$\times 10^{-7}$	CL=90% 930
$\pi^- 2\mu^+$	L		< 1.4		$\times 10^{-8}$	CL=90% 918
$\pi^- e^+\mu^+$	L		< 1.3		$\times 10^{-7}$	CL=90% 927
$\rho^- 2\mu^+$	L		< 5.6		$\times 10^{-4}$	CL=90% 757
$K^- 2e^+$	L		< 9		$\times 10^{-7}$	CL=90% 870
$K^0_S\pi^- 2e^+$	L		< 3.3		$\times 10^{-6}$	CL=90% 863
$K^-\pi^0 2e^+$	L		< 8.5		$\times 10^{-6}$	CL=90% 864
$K^- 2\mu^+$	L		< 1.0		$\times 10^{-5}$	CL=90% 856
$K^- e^+\mu^+$	L		< 1.9		$\times 10^{-6}$	CL=90% 866
$K^*(892)^- 2\mu^+$	L		< 8.5		$\times 10^{-4}$	CL=90% 703
Λe^+	L,B		< 1.1		$\times 10^{-6}$	CL=90% 602
$\overline{\Lambda} e^+$	L,B		< 6.5		$\times 10^{-7}$	CL=90% 602
$\Sigma^0 e^+$	L,B		< 1.7		$\times 10^{-6}$	CL=90% 554
$\overline{\Sigma}^0 e^+$	L,B		< 1.3		$\times 10^{-6}$	CL=90% 554
$\overline{n} e^+$			< 1.43		$\times 10^{-5}$	CL=90% 699
$n e^+$			< 2.91		$\times 10^{-5}$	CL=90% 699

D^0

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

Mass $m = 1864.84 \pm 0.04$ MeV
$m_{D^\pm} - m_{D^0} = 4.822 \pm 0.015$ MeV
Mean life $\tau = (410.3 \pm 1.0) \times 10^{-15}$ s
$c\tau = 123.01\ \mu$m

Mixing and related parameters

$\left|m_{D^0_1} - m_{D^0_2}\right| = (0.997 \pm 0.116) \times 10^{10}\ \hbar\ \mathrm{s}^{-1}$
$(\Gamma_{D^0_1} - \Gamma_{D^0_2})/\Gamma = 2y = (1.394 \pm 0.056) \times 10^{-2}$
$\left|q/p\right| = 0.995 \pm 0.016$

$A_\Gamma = (0.89 \pm 1.13) \times 10^{-4}$
$\phi^{K^0_S \pi\pi} = 0.02^{+0.04}_{-0.05}$
$\delta(K\pi)$ - relative strong phase $= 191^{+6}_{-7}$ degrees
$K^-\pi^+\pi^0$ coherence factor $R_{K\pi\pi^0} = 0.792 \pm 0.033$
$K^-\pi^+\pi^0$ average relative strong phase $\delta^{K\pi\pi^0} = (198 \pm 10)^\circ$
$K^-\pi^-2\pi^+$ coherence factor $R_{K3\pi} = (45 \pm 4) \times 10^{-2}$
$K^-\pi^-2\pi^+$ average relative strong phase $\delta^{K3\pi} = (156^{+12}_{-10})^\circ$ (S = 1.1)
$D^0 \to K^-\pi^-2\pi^+$, $R_{K3\pi}$ (y $\cos\delta^{K3\pi}$ − x $\sin\delta^{K3\pi}$) $= (-3.0 \pm 0.7) \times 10^{-3}$ TeV^{-1}
$K^0_S K^+\pi^-$ coherence factor $R_{K^0_S K\pi} = 0.70 \pm 0.08$
$K^0_S K^+\pi^-$ average relative strong phase $\delta^{K^0_S K\pi} = (0 \pm 16)^\circ$
K^*K coherence factor $R_{K^*K} = 0.94 \pm 0.12$
K^*K average relative strong phase $\delta^{K^*K} = (-17 \pm 18)^\circ$

CP-even fractions (labeled by the D^0 decay)

CP-even fraction in $D^0 \to K^0_S\pi^+\pi^-\pi^0$ decays $= (23.6 \pm 0.9)\%$
CP-even fraction in $D^0 \to \pi^+\pi^-\pi^0$ decays $= (94.2 \pm 0.7)\%$ (S = 1.9)
CP-even fraction in $D^0 \to \pi^+\pi^-\pi^+\pi^-$ decays $= (74.6 \pm 0.8)\%$
CP-even fraction in $D^0 \to \pi^+\pi^-2\pi^0$ decays $= 0.68 \pm 0.08$
CP-even fraction in $D^0 \to 2\pi^+2\pi^-\pi^0$ decays $= 0.44 \pm 0.10$
CP-even fraction in $D^0 \to \pi^+\pi^-3\pi^0$ decays $= 0.52^{+0.34}_{-0.27}$
CP-even fraction in $D^0 \to 2\pi^+2\pi^-2\pi^0$ decays $= 0.79 \pm 0.26$
CP-even fraction in $D^0 \to K^+K^-\pi^0$ decays $= (64.1 \pm 3.0)\%$ (S = 1.7)
CP-even fraction in $D^0 \to K^+K^-\pi^+\pi^-$ decays $= (74.1 \pm 3.0)\%$

CP-violation decay-rate asymmetries (labeled by the D^0 decay)

$A_{CP}(K^+K^-) = (4 \pm 5) \times 10^{-4}$
$A_{CP}(2K^0_S) = (-0.9 \pm 1.2)\%$ (S = 1.7)
$A_{CP}(\pi^+\pi^-) = (0.13 \pm 0.14)\%$
$A_{CP}(\pi^0\pi^0) = (0.1 \pm 0.5)\%$
$A_{CP}(\rho\gamma) = (6 \pm 15) \times 10^{-2}$
$A_{CP}(\phi\gamma) = (-9 \pm 7) \times 10^{-2}$
$A_{CP}(\overline{K}^*(892)^0\gamma) = (-0.3 \pm 2.0) \times 10^{-2}$
$A_{CP}(\pi^+\pi^-\pi^0) = (0.4 \pm 0.4)\%$
$A_{CP}(\eta\pi^+\pi^-)$ in D^0, $\overline{D}^0 \to \eta\pi^+\pi^- = (0.9 \pm 1.3) \times 10^{-2}$
$A_{CP}(\rho(770)^+\pi^- \to \pi^+\pi^-\pi^0) = (1.2 \pm 0.9)\%$ [i]
$A_{CP}(\rho(770)^0\pi^0 \to \pi^+\pi^-\pi^0) = (-3.1 \pm 3.0)\%$ [i]

$A_{CP}(\rho(770)^-\pi^+ \to\ \pi^+\pi^-\pi^0) = (-1.0 \pm 1.7)\%$ [i]
$A_{CP}(\rho(1450)^+\pi^- \to\ \pi^+\pi^-\pi^0) = (0 \pm 70)\%$ [i]
$A_{CP}(\rho(1450)^0\pi^0 \to\ \pi^+\pi^-\pi^0) = (-20 \pm 40)\%$ [i]
$A_{CP}(\rho(1450)^-\pi^+ \to\ \pi^+\pi^-\pi^0) = (6 \pm 9)\%$ [i]
$A_{CP}(\rho(1700)^+\pi^- \to\ \pi^+\pi^-\pi^0) = (-5 \pm 14)\%$ [i]
$A_{CP}(\rho(1700)^0\pi^0 \to\ \pi^+\pi^-\pi^0) = (13 \pm 9)\%$ [i]
$A_{CP}(\rho(1700)^-\pi^+ \to\ \pi^+\pi^-\pi^0) = (8 \pm 11)\%$ [i]
$A_{CP}(f_0(980)\pi^0 \to\ \pi^+\pi^-\pi^0) = (0 \pm 35)\%$ [i]
$A_{CP}(f_0(1370)\pi^0 \to\ \pi^+\pi^-\pi^0) = (25 \pm 18)\%$ [i]
$A_{CP}(f_0(1500)\pi^0 \to\ \pi^+\pi^-\pi^0) = (0 \pm 18)\%$ [i]
$A_{CP}(f_0(1710)\pi^0 \to\ \pi^+\pi^-\pi^0) = (0 \pm 24)\%$ [i]
$A_{CP}(f_2(1270)\pi^0 \to\ \pi^+\pi^-\pi^0) = (-4 \pm 6)\%$ [i]
$A_{CP}(\sigma(400)\pi^0 \to\ \pi^+\pi^-\pi^0) = (6 \pm 8)\%$ [i]
$A_{CP}(\text{nonresonant } \pi^+\pi^-\pi^0) = (-13 \pm 23)\%$ [i]
$A_{CP}(\pi^+\pi^-2\pi^0)$ in D^0, $\overline{D}^0 \to\ \pi^+\pi^-2\pi^0 = (-2.5 \pm 2.0)\%$
$A_{CP}(a_1(1260)^+\pi^- \to\ 2\pi^+2\pi^-) = (5 \pm 6)\%$
$A_{CP}(a_1(1260)^-\pi^+ \to\ 2\pi^+2\pi^-) = (14 \pm 18)\%$
$A_{CP}(\pi(1300)^+\pi^- \to\ 2\pi^+2\pi^-) = (-2 \pm 15)\%$
$A_{CP}(\pi(1300)^-\pi^+ \to\ 2\pi^+2\pi^-) = (-6 \pm 30)\%$
$A_{CP}(a_1(1640)^+\pi^- \to\ 2\pi^+2\pi^-) = (9 \pm 26)\%$
$A_{CP}(\pi_2(1670)^+\pi^- \to\ 2\pi^+2\pi^-) = (7 \pm 18)\%$
$A_{CP}(\sigma f_0(1370) \to\ 2\pi^+2\pi^-) = (-15 \pm 19)\%$
$A_{CP}(\sigma\rho(770)^0 \to\ 2\pi^+2\pi^-) = (3 \pm 27)\%$
$A_{CP}(2\rho(770)^0 \to\ 2\pi^+2\pi^-) = (-6 \pm 6)\%$
$A_{CP}(2f_2(1270) \to\ 2\pi^+2\pi^-) = (-28 \pm 24)\%$
$A_{CP}(\pi^+\pi^-\pi^0\eta)$ in D^0, $\overline{D}^0 \to\ \pi^+\pi^-\pi^0\eta = (-6 \pm 6) \times 10^{-2}$
$A_{CP}(K^+K^-\pi^0) = (-1.0 \pm 1.7)\%$
$A_{CP}(K^*(892)^+K^- \to\ K^+K^-\pi^0) = (-0.9 \pm 1.3)\%$ [i]
$A_{CP}(K^*(1410)^+K^- \to\ K^+K^-\pi^0) = (-21 \pm 24)\%$ [i]
$A_{CP}((K^+\pi^0)_{S-wave}K^- \to\ K^+K^-\pi^0) = (7 \pm 15)\%$ [i]
$A_{CP}(\phi(1020)\pi^0 \to\ K^+K^-\pi^0) = (1.1 \pm 2.2)\%$ [i]
$A_{CP}(f_0(980)\pi^0 \to\ K^+K^-\pi^0) = (-3 \pm 19)\%$ [i]
$A_{CP}(a_0(980)^0\pi^0 \to\ K^+K^-\pi^0) = (-5 \pm 16)\%$ [i]
$A_{CP}(f_2'(1525)\pi^0 \to\ K^+K^-\pi^0) = (0 \pm 160)\%$ [i]
$A_{CP}(K^*(892)^-K^+ \to\ K^+K^-\pi^0) = (-5 \pm 4)\%$ [i]
$A_{CP}(K^*(1410)^-K^+ \to\ K^+K^-\pi^0) = (-17 \pm 29)\%$ [i]
$A_{CP}((K^-\pi^0)_{S-wave}K^+ \to\ K^+K^-\pi^0) = (-10 \pm 40)\%$ [i]
$A_{CP}(K^+K^-\eta)$ in D^0, $\overline{D}^0 \to\ K^+K^-\eta = (-1.4 \pm 3.5) \times 10^{-2}$
$A_{CP}(\phi(1020)\eta \to\ K^+K^-\eta)$ in D^0, $\overline{D}^0 \to\ \phi(1020)\eta = (-2 \pm 4) \times 10^{-2}$
$A_{CP}(K^0_S\pi^0) = (-0.20 \pm 0.17)\%$
$A_{CP}(K^0_S\eta) = (0.5 \pm 0.5)\%$

$A_{CP}(K^0_S\eta') = (1.0 \pm 0.7)\%$
$A_{CP}(K^0_S\phi) = (-3 \pm 9)\%$
$A_{CP}(K^-\pi^+) = (0.2 \pm 0.5)\%$
$A_{CP}(K^+\pi^-) = (-0.4 \pm 0.7)\%$ (S = 1.3)
$A_{CP}(D_{CP(\pm1)} \to K^\mp\pi^\pm) = (13.1 \pm 1.0)\%$
$A_{CP}(K^-\pi^+\pi^0) = (0.1 \pm 0.5)\%$
$A_{CP}(K^+\pi^-\pi^0) = (0 \pm 5)\%$
$A_{CP}(K^0_S\pi^+\pi^-) = (-0.1 \pm 0.8)\%$
$A_{CP}(K^\mp\pi^\pm\eta)$ in D^0, $\overline{D}^0 \to K^\mp\pi^\pm\eta = (-1.9 \pm 1.6) \times 10^{-2}$
$A_{CP}(K^0_S\pi^0\eta)$ in D^0, $\overline{D}^0 \to K^0_S\pi^0\eta = (-3.9 \pm 3.3) \times 10^{-2}$
$A_{CP}(K^\mp\pi^\pm\pi^0\eta)$ in D^0, $\overline{D}^0 \to K^\mp\pi^\pm\pi^0\eta = (-8 \pm 5) \times 10^{-2}$
$A_{CP}(K^*(892)^-\pi^+ \to K^0_S\pi^+\pi^-) = (0.4 \pm 0.5)\%$
$A_{CP}(K^*(892)^+\pi^- \to K^0_S\pi^+\pi^-) = (1 \pm 6)\%$
$A_{CP}(\overline{K}^0\rho^0 \to K^0_S\pi^+\pi^-) = (-0.1 \pm 0.5)\%$
$A_{CP}(\overline{K}^0\omega \to K^0_S\pi^+\pi^-) = (-13 \pm 7)\%$
$A_{CP}(\overline{K}^0 f_0(980) \to K^0_S\pi^+\pi^-) = (-0.4 \pm 2.7)\%$
$A_{CP}(\overline{K}^0 f_2(1270) \to K^0_S\pi^+\pi^-) = (-4 \pm 5)\%$
$A_{CP}(\overline{K}^0 f_0(1370) \to K^0_S\pi^+\pi^-) = (-1 \pm 9)\%$
$A_{CP}(\overline{K}^0\rho^0(1450) \to K^0_S\pi^+\pi^-) = (-4 \pm 10)\%$
$A_{CP}(\overline{K}^0 f_0(600) \to K^0_S\pi^+\pi^-) = (-3 \pm 5)\%$
$A_{CP}(K^*(1410)^-\pi^+ \to K^0_S\pi^+\pi^-) = (-2 \pm 9)\%$
$A_{CP}(K^*_0(1430)^-\pi^+ \to K^0_S\pi^+\pi^-) = (4 \pm 4)\%$
$A_{CP}(K^*_0(1430)^+\pi^- \to K^0_S\pi^+\pi^-) = (12 \pm 15)\%$
$A_{CP}(K^*_2(1430)^-\pi^+ \to K^0_S\pi^+\pi^-) = (3 \pm 6)\%$
$A_{CP}(K^*_2(1430)^+\pi^- \to K^0_S\pi^+\pi^-) = (-10 \pm 32)\%$
$A_{CP}(K^-\pi^+\pi^+\pi^-) = (0.2 \pm 0.5)\%$
$A_{CP}(K^+\pi^-\pi^+\pi^-) = (-2 \pm 4)\%$
$A_{CP}(K^+K^-\pi^+\pi^-) = (1.3 \pm 1.7)\%$
$A_{CP}(2K^0_S\pi^+\pi^-)$ in D^0, $\overline{D}^0 \to 2K^0_S\pi^+\pi^- = (-2.5 \pm 1.4) \times 10^{-2}$
$A_{CP}(K^*_1(1270)^+K^- \to K^+K^-\pi^+\pi^-) = (-2.3 \pm 1.7)\%$
$A_{CP}(K^*_1(1270)^+K^- \to K^{*0}\pi^+K^-) = (-1 \pm 10)\%$
$A_{CP}(K^*_1(1270)^-K^+ \to \overline{K}^{*0}\pi^-K^+) = (-10 \pm 32)\%$
$A_{CP}(K^*_1(1270)^-K^+ \to K^+K^-\pi^+\pi^-) = (1.7 \pm 3.5)\%$
$A_{CP}(K^*_1(1270)^+K^- \to \rho^0K^+K^-) = (-7 \pm 17)\%$
$A_{CP}(K^*_1(1270)^-K^+ \to \rho^0K^-K^+) = (10 \pm 13)\%$
$A_{CP}(K_1(1400)^+K^- \to K^+K^-\pi^+\pi^-) = (-4.4 \pm 2.1)\%$
$A_{CP}(K^*(1410)^+K^- \to K^{*0}\pi^+K^-) = (-20 \pm 17)\%$
$A_{CP}(K^*(1410)^-K^+ \to \overline{K}^{*0}\pi^-K^+) = (-1 \pm 14)\%$
$A_{CP}(K^*(1680)^+K^- \to K^+K^-\pi^+\pi^-) = (-17 \pm 29)\%$
$A_{CP}(K^{*0}\overline{K}^{*0})$ in D^0, $\overline{D}^0 \to K^{*0}\overline{K}^{*0} = (-5 \pm 14)\%$
$A_{CP}(K^{*0}\overline{K}^{*0}$ S-wave$) = (-3.9 \pm 2.2)\%$

$A_{CP}(\phi\rho^0)$ in D^0, $\overline{D}{}^0 \to \phi\rho^0 = (1 \pm 9)\%$
$A_{CP}(\phi\rho^0$ S-wave$) = (-3 \pm 5)\%$
$A_{CP}(\phi\rho^0$ D-wave$) = (-37 \pm 19)\%$
$A_{CP}(\phi(\pi^+\pi^-)_{S-wave}) = (6 \pm 6)\%$
$A_{CP}(K^*(892)^0(K^-\pi^+)_{S-wave}) = (-10 \pm 40)\%$
$A_{CP}(K^+K^-\pi^+\pi^-$ non-resonant$) = (8 \pm 20)\%$
$A_{CP}((K^-\pi^+)_{P-wave}\ (K^+\pi^-)_{S-wave}) = (3 \pm 11)\%$
$A_{CP}(K^+K^-\mu^+\mu^-)$ in D^0, $\overline{D}{}^0 \to K^+K^-\mu^+\mu^- = (-2 \pm 6)\%$
$A_{CP}(\pi^+\pi^-\mu^+\mu^-)$ in D^0, $\overline{D}{}^0 \to \pi^+\pi^-\mu^+\mu^- = (2.9 \pm 2.1)\%$

CP-violation asymmetry difference

$\Delta A_{CP} = A_{CP}(K^+K^-) - A_{CP}(\pi^+\pi^-) = (-0.154 \pm 0.029)\%$

χ^2 tests of *CP*-violation (*CPV*) p-values

Local *CPV* in D^0, $\overline{D}{}^0 \to \pi^+\pi^-\pi^0 = 10.6\%$
Local *CPV* in D^0, $\overline{D}{}^0 \to \pi^+\pi^-\pi^+\pi^- = (0.6 \pm 0.2)\%$
Local *CPV* in D^0, $\overline{D}{}^0 \to K^0_S\pi^+\pi^- = 96\%$
Local *CPV* in D^0, $\overline{D}{}^0 \to K^+K^-\pi^0 = 16.6\%$
Local *CPV* in D^0, $\overline{D}{}^0 \to K^+K^-\pi^+\pi^- = 9.1\%$

T-violation decay-rate asymmetry

$A_T(K^+K^-\pi^+\pi^-) = (2.9 \pm 2.2) \times 10^{-3}$ [b]
$A_{Tviol}(2K^0_S\pi^+\pi^-)$ in D^0, $\overline{D}{}^0 \to 2K^0_S\pi^+\pi^- = (-1.9 \pm 1.4) \times 10^{-2}$
$A_{\mathrm{Tviol}}(K^0_S\pi^+\pi^-\pi^0)$ in D^0, $\overline{D}{}^0 \to K^0_S\pi^+\pi^-\pi^0 = (-0.3^{+1.4}_{-1.6}) \times 10^{-3}$

CPT-violation decay-rate asymmetry

$A_{CPT}(K^\mp\pi^\pm) = -1.46 \times 10^{-4}$ to 6.6×10^{-5}, CL = 95%

Form factors

$r_V \equiv$ V(0)/A_1(0) in $D^0 \to K^*(892)^-\ell^+\nu_\ell = 1.45 \pm 0.04$
$r_2 \equiv$ A_2(0)/A_1(0) in $D^0 \to K^*(892)^-\ell^+\nu_\ell = 0.720 \pm 0.033$
$r_V \equiv$ V(0)/A_1(0) in $D^0 \to \rho^-\ell^+\nu_\ell = 1.55 \pm 0.09$
$r_2 \equiv$ A_2(0)/A_1(0) in $D^0 \to \rho^-\ell^+\nu_\ell = 0.82 \pm 0.06$
$f_+(0)$ in $D^0 \to K^-\ell^+\nu_\ell = 0.736 \pm 0.004$
$f_+(0)|V_{cs}|$ in $D^0 \to K^-\ell^+\nu_\ell = 0.7176 \pm 0.0018$
$r_1 \equiv a_1/a_0$ in $D^0 \to K^-\ell^+\nu_\ell = -2.40 \pm 0.16$
$r_2 \equiv a_2/a_0$ in $D^0 \to K^-\ell^+\nu_\ell = 5 \pm 4$
$f_+(0)$ in $D^0 \to \pi^-\ell^+\nu_\ell = 0.637 \pm 0.009$
$f_+(0)|V_{cd}|$ in $D^0 \to \pi^-\ell^+\nu_\ell = 0.1436 \pm 0.0026$ (S = 1.5)
$r_1 \equiv a_1/a_0$ in $D^0 \to \pi^-\ell^+\nu_\ell = -1.97 \pm 0.28$ (S = 1.4)
$r_2 \equiv a_1/a_0$ in $D^0 \to \pi^-\ell^+\nu_\ell = -0.2 \pm 2.2$ (S = 1.7)
$f_+^{a_0}(0)|V_{cd}|$ in $D^0 \to a_0(980)^-e^+\nu_e = 0.126 \pm 0.013$

Most decay modes (other than the semileptonic modes) that involve a neutral K meson are now given as K^0_S modes, not as $\overline{K}^0$ modes. Nearly always it is a K^0_S that is measured, and interference between Cabibbo-allowed and doubly Cabibbo-suppressed modes can invalidate the assumption that $2\,\Gamma(K^0_S) = \Gamma(\overline{K}^0)$.

D^0 DECAY MODES		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)
Topological modes				
0-prongs	[j]	(15 ± 6) %		–
2-prongs		(71 ± 6) %		–
4-prongs	[k]	(14.6 ± 0.5) %		–
6-prongs	[l]	(6.5 ± 1.3) $\times 10^{-4}$		–
Inclusive modes				
e^+ anything	[n]	(6.49 ± 0.11) %		–
μ^+ anything		(6.8 ± 0.6) %		–
K^- anything		(54.7 ± 2.8) %	S=1.3	–
K^0_S anything		(20.75 ± 0.23) %		–
K^+ anything		(3.4 ± 0.4) %		–
$K^*(892)^-$ anything		(15 ± 9) %		–
$\overline{K}^*(892)^0$ anything		(9 ± 4) %		–
$K^*(892)^+$ anything		< 3.6 %	CL=90%	–
$K^*(892)^0$ anything		(2.8 ± 1.3) %		–
η anything		(9.5 ± 0.9) %		–
η' anything		(2.48 ± 0.27) %		–
ϕ anything		(1.08 ± 0.04) %		–
$\pi^+\pi^+\pi^-$ anything		(17.60 ± 0.25) %		–
invisibles		< 9.4 $\times 10^{-5}$	CL=90%	–
Semileptonic modes				
$K^- e^+ \nu_e$		(3.537± 0.017) %	S=1.1	867
$K^- \mu^+ \nu_\mu$		(3.418± 0.019) %		864
$K^*(892)^- e^+ \nu_e$		(2.16 ± 0.16) %		719
$K^*(892)^- \mu^+ \nu_\mu$		(2.01 ± 0.06) %	S=1.7	714
$K^- \pi^0 e^+ \nu_e$		(1.6 $^{+\ 1.3}_{-\ 0.5}$) %		861
$\overline{K}^0 \pi^- e^+ \nu_e$		(1.447± 0.033) %		860
$(\overline{K}^0 \pi^-)_{S-wave}\, e^+ \nu_e$		(8.5 ± 0.6) $\times 10^{-4}$		860
$K^- \pi^0 \mu^+ \nu_\mu$		(7.10 ± 0.21) $\times 10^{-3}$	S=1.7	849
$(K^- \pi^0)_{S-wave}\, \mu^+ \nu_\mu$		(4.09 ± 0.35) $\times 10^{-4}$		849
$\overline{K}^0 \pi^- \mu^+ \nu_\mu$		(1.40 ± 0.04) %	S=1.7	847
$(\overline{K}^0 \pi^-)_{S-wave}\, \mu^+ \nu_\mu$		(7.5 ± 1.6) $\times 10^{-4}$		847
$K^- \eta e^+ \nu_e$		(8 ± 4) $\times 10^{-5}$		773
$K^- \pi^+ \pi^- e^+ \nu_e$		(2.8 $^{+\ 1.4}_{-\ 1.1}$) $\times 10^{-4}$		843

$K_1(1270)^- e^+ \nu_e$, $K_1^- \to K^- \pi^+ \pi^-$	(3.23 ± 0.25) × 10^{-4}			511
$K_1(1270)^- e^+ \nu_e$, $K_1^- \to K_S^0 \pi^- \pi^0$	(1.7 $^{+0.6}_{-0.5}$) × 10^{-4}			–
$K^- \pi^+ \pi^- \mu^+ \nu_\mu$	< 1.3	× 10^{-3}	CL=90%	821
$(\overline{K}^*(892)\pi)^- \mu^+ \nu_\mu$	< 1.5	× 10^{-3}	CL=90%	692
$K_1(1270)^- \mu^+ \nu_\mu$, $K_1^- \to K^- \pi^+ \pi^-$	(2.6 $^{+0.4}_{-0.5}$) × 10^{-4}			–
$K_1(1400)^- e^+ \nu_e$	< 7	× 10^{-5}	CL=90%	405
$\pi^- e^+ \nu_e$	(2.91 ± 0.04) × 10^{-3}			927
$\pi^- \mu^+ \nu_\mu$	(2.67 ± 0.12) × 10^{-3}		S=1.3	924
$\pi^- \pi^0 e^+ \nu_e$	(1.45 ± 0.07) × 10^{-3}			922
$\rho^- e^+ \nu_e$	(1.46 ± 0.08) × 10^{-3}		S=2.0	771
$\rho^- \mu^+ \nu_\mu$	(1.35 ± 0.13) × 10^{-3}			767
$a(980)^- e^+ \nu_e$, $a^- \to \eta \pi^-$	(8.6 ± 1.8) × 10^{-5}			–
$K_S^0 K^- e^+ \nu_e$	< 2.13	× 10^{-5}	CL=90%	790
$b_1(1235)^- e^+ \nu_e$, $b_1^- \to \omega \pi^-$	< 1.12	× 10^{-4}	CL=90%	–

Hadronic modes with one $\overline{K}$

$K^- \pi^+$		(3.936 ± 0.030) %		S=1.3	861
$K_S^0 \pi^0$		(1.239 ± 0.022) %			860
$K_L^0 \pi^0$		(9.76 ± 0.32) × 10^{-3}			860
$K_L^0 \eta$		(4.34 ± 0.16) × 10^{-3}			772
$K_L^0 \eta'$		(8.12 ± 0.35) × 10^{-3}		S=1.3	565
$K_L^0 \omega$		(1.16 ± 0.04) %			670
$K_S^0 \pi^+ \pi^-$	[c]	(2.84 ± 0.16) %		S=1.1	842
$K_S^0 \rho^0$		(6.3 $^{+0.6}_{-0.8}$) × 10^{-3}			674
$K_S^0 \omega$, $\omega \to \pi^+ \pi^-$		(2.1 ± 0.6) × 10^{-4}			670
$K_S^0 (\pi^+ \pi^-)_{S-wave}$		(3.4 ± 0.8) × 10^{-3}			842
$K_S^0 f_0(980)$, $f_0 \to \pi^+ \pi^-$		(1.22 $^{+0.40}_{-0.23}$) × 10^{-3}			549
$K_S^0 f_0(1370)$, $f_0 \to \pi^+ \pi^-$		(2.8 $^{+0.9}_{-1.3}$) × 10^{-3}			†
$K_S^0 f_2(1270)$, $f_2 \to \pi^+ \pi^-$		(9 $^{+10}_{-6}$) × 10^{-5}			262
$K^*(892)^- \pi^+$, $K^{*-} \to K_S^0 \pi^-$		(1.67 $^{+0.13}_{-0.16}$) %			711
$K_0^*(1430)^- \pi^+$, $K_0^{*-} \to K_S^0 \pi^-$		(2.71 $^{+0.40}_{-0.32}$) × 10^{-3}			378
$K_2^*(1430)^- \pi^+$, $K_2^{*-} \to K_S^0 \pi^-$		(3.4 $^{+1.9}_{-1.0}$) × 10^{-4}			367

$K^*(1680)^-\pi^+$, $K^{*-}\to K^0_S\pi^-$		(4 ± 4) $\times 10^{-4}$			46
$K^*(892)^+\pi^-$, $K^{*+}\to K^0_S\pi^+$	[o]	(1.14 $^{+\ 0.60}_{-\ 0.34}$) $\times 10^{-4}$			711
$K^*_0(1430)^+\pi^-$, $K^{*+}_0\to K^0_S\pi^+$	[o]	< 1.4	$\times 10^{-5}$	CL=95%	–
$K^*_2(1430)^+\pi^-$, $K^{*+}_2\to K^0_S\pi^+$	[o]	< 3.4	$\times 10^{-5}$	CL=95%	–
$K^0_S\pi^+\pi^-$ nonresonant		(2.6 $^{+\ 6.0}_{-\ 1.6}$) $\times 10^{-4}$			842
$K^-\pi^+\pi^0$	[c]	(14.4 ± 0.5) %		S=2.0	844
$K^-\rho^+$		(11.2 ± 0.7) %			676
$K^-\rho(1700)^+$, $\rho^+\to\pi^+\pi^0$		(8.2 ± 1.8) $\times 10^{-3}$			†
$K^*(892)^-\pi^+$, $K^*(892)^-\to K^-\pi^0$		(2.30 $^{+\ 0.40}_{-\ 0.20}$) %			711
$\overline{K}^*(892)^0\pi^0$, $\overline{K}^*(892)^0\to K^-\pi^+$		(1.95 ± 0.24) %			711
$K^*_0(1430)^-\pi^+$, $K^{*-}_0\to K^-\pi^0$		(4.7 ± 2.2) $\times 10^{-3}$			378
$\overline{K}^*_0(1430)^0\pi^0$, $\overline{K}^{*0}_0\to K^-\pi^+$		(5.9 $^{+\ 5.0}_{-\ 1.6}$) $\times 10^{-3}$			379
$K^*(1680)^-\pi^+$, $K^{*-}\to K^-\pi^0$		(1.9 ± 0.7) $\times 10^{-3}$			46
$K^-\pi^+\pi^0$ nonresonant		(1.15 $^{+\ 0.60}_{-\ 0.20}$) %			844
$K^0_S 2\pi^0$		(9.1 ± 1.1) $\times 10^{-3}$		S=2.2	843
$K^0_L\pi^0\pi^0$		(1.26 ± 0.06) %			843
$K^0_S(2\pi^0)_{S-wave}$		(2.6 ± 0.7) $\times 10^{-3}$			–
$\overline{K}^*(892)^0\pi^0$, $\overline{K}^{*0}\to K^0_S\pi^0$		(6.0 ± 0.9) $\times 10^{-3}$			711
$\overline{K}^*(1430)^0\pi^0$, $\overline{K}^{*0}\to K^0_S\pi^0$		(4 ±23) $\times 10^{-5}$			–
$\overline{K}^*(1680)^0\pi^0$, $\overline{K}^{*0}\to K^0_S\pi^0$		(1.0 ± 0.4) $\times 10^{-3}$			–
$K^0_S f_2(1270)$, $f_2\to 2\pi^0$		(2.3 ± 1.1) $\times 10^{-4}$			–
$2K^0_S$, one $K^0_S\to 2\pi^0$		(3.2 ± 1.1) $\times 10^{-4}$			–
$K^0_S 3\pi^0$		(7.6 ± 0.4) $\times 10^{-3}$			815
$K^-2\pi^+\pi^-$	[c]	(8.20 ± 0.14) %		S=1.2	813
$K^-\pi^+\rho^0$ total		(6.85 ± 0.31) %			609
$K^-\pi^+\rho^0$ 3-body		(6.1 ± 1.6) $\times 10^{-3}$			609
$\overline{K}^*(892)^0\rho^0$, $\overline{K}^{*0}\to K^-\pi^+$		(1.01 ± 0.05) %			416
$\overline{K}^*(892)^0\rho^0$ transverse, $\overline{K}^{*0}\to K^-\pi^+$		(1.2 ± 0.4) %			417

$K^- a_1(1260)^+,\ a_1^+ \to \rho^0\pi^+$		$(\ 4.31 \pm 0.32\ )$ %		327
$K_1(1270)^-\pi^+,\ K_1^- \to K^-\pi^+\pi^-$ total		$(\ 3.9 \pm 0.4\ )\times10^{-3}$		–
$K_1(1270)^-\pi^+,\ K_1^- \to \overline{K}^*(892)^0\pi^-,\ \overline{K}^{*0} \to K^-\pi^+$		$(\ 6.6 \pm 2.3\ )\times10^{-4}$		484
$K^-2\pi^+\pi^-$ nonresonant		$(\ 1.80 \pm 0.07\ )$ %		813
$K^0_S\pi^+\pi^-\pi^0$	[p]	$(\ 5.2 \pm 0.6\ )$ %		813
$K^0_S\eta,\ \eta \to \pi^+\pi^-\pi^0$		$(\ 1.17 \pm 0.03\ )\times10^{-3}$		772
$K^0_S\omega,\ \omega \to \pi^+\pi^-\pi^0$		$(\ 9.9 \pm 0.6\ )\times10^{-3}$		670
$K^-\pi^+2\pi^0$		$(\ 8.86 \pm 0.23\ )$ %		815
$K^-\pi^+3\pi^0$		$(\ 9.5 \pm 0.4\ )\times10^{-3}$		774
$K^0_S\pi^+\pi^-2\pi^0$		$(\ 1.27 \pm 0.06\ )$ %		771
$K^-2\pi^+\pi^-\pi^0$		$(\ 4.3 \pm 0.4\ )$ %		771
$\overline{K}^*(892)^0\pi^+\pi^-\pi^0,\ \overline{K}^{*0} \to K^-\pi^+$		$(\ 1.3 \pm 0.6\ )$ %		643
$\overline{K}^*(892)^0\omega,\ \overline{K}^{*0} \to K^-\pi^+,\ \omega \to \pi^+\pi^-\pi^0$		$(\ 6.5 \pm 3.0\ )\times10^{-3}$		410
$K^-\pi^+\omega$		$(\ 3.39 \pm 0.10\ )$ %		605
$\overline{K}^*(892)^0\omega$		$(\ 1.1 \pm 0.5\ )$ %		410
$K^0_S\pi^0\omega$		$(\ 8.5 \pm 0.6\ )\times10^{-3}$		605
$K^0_S\eta\pi^0$		$(\ 1.01 \pm 0.05\ )$ %		721
$K^0_S a_0(980),\ a_0 \to \eta\pi^0$		$(\ 1.20 \pm 0.28\ )$ %		–
$\overline{K}^*(892)^0\eta,\ \overline{K}^{*0} \to K^0_S\pi^0$		$(\ 2.9 \pm 0.7\ )\times10^{-3}$		–
$K^-\pi^+\eta$		$(\ 1.88 \pm 0.05\ )$ %	S=1.4	721
$K^*(892)^0\eta,\ K^{*0} \to K^-\pi^+$		$(\ 8.9\ ^{+\ 0.8}_{-\ 0.6}\ )\times10^{-3}$		–
$a_0(980)^+K^-,\ a_0^+ \to \eta\pi^+$		$(\ 7.4\ ^{+\ 0.9}_{-\ 0.7}\ )\times10^{-3}$		–
$K_2^*(1980)^-\pi^+,\ K_2^{*-} \to K^-\eta$		$(\ 2.2\ ^{+\ 1.7}_{-\ 1.9}\ )\times10^{-4}$		–
$K^-\pi^+\pi^0\eta$		$(\ 4.49 \pm 0.27\ )\times10^{-3}$		656
$K^0_S\pi^+\pi^-\eta$		$(\ 2.80 \pm 0.21\ )\times10^{-3}$		651
$K^0_S2\pi^0\eta$		$(\ 1.76 \pm 0.26\ )\times10^{-3}$		656
$K^0_S2\pi^+2\pi^-$		$(\ 2.70 \pm 0.29\ )\times10^{-3}$		768
$K^0_S\rho^0\pi^+\pi^-$, no $K^*(892)^-$		$(\ 1.1 \pm 0.7\ )\times10^{-3}$		–
$K^*(892)^-2\pi^+\pi^-,\ K^*(892)^- \to K^0_S\pi^-,$ no ρ^0		$(\ 5 \pm 8\ )\times10^{-4}$		642
$K^*(892)^-\rho^0\pi^+,\ K^*(892)^- \to K^0_S\pi^-$		$(\ 1.6 \pm 0.6\ )\times10^{-3}$		230
$K^0_S2\pi^+2\pi^-$ nonresonant		$< 1.2 \times10^{-3}$	CL=90%	768

$K^-3\pi^+2\pi^-$	(1.48 ± 0.32) × 10^{-4}	S=1.4	713
$K^-2\pi^+\pi^-2\pi^0$	(1.90 ± 0.19) × 10^{-3}		717

Fractions of some of the following modes with resonances have already appeared above as submodes of particular charged-particle modes. These nine modes below are all corrected for unseen decays of the resonances.

$K^0_S\eta$	(5.08 ± 0.13) × 10^{-3}		772
$K^0_S\omega$	(1.11 ± 0.06) %		670
$K^0_S\eta'(958)$	(9.49 ± 0.32) × 10^{-3}		565
$\overline{K}^*(892)^0\pi^+\pi^-\pi^0$	(1.9 ± 0.9) %		643
$\overline{K}^*(892)^0\eta$	(1.41 ± 0.12) %		582
$K^-\pi^+\eta'(958)$	(6.43 ± 0.34) × 10^{-3}		479
$K^0_S\eta'(958)\pi^0$	(2.52 ± 0.27) × 10^{-3}		479
$\overline{K}^*(892)^0\eta'(958)$	< 1.0 × 10^{-3}	CL=90%	119

Hadronic modes with three K's

$K^0_S K^+K^-$	(4.49 ± 0.29) × 10^{-3}		544
$K^0_S a_0(980)^0$, $a_0^0 \to K^+K^-$	(3.0 ± 0.4) × 10^{-3}		–
$K^- a_0(980)^+$, $a_0^+ \to K^+K^0_S$	(6.0 ± 1.8) × 10^{-4}		–
$K^+ a_0(980)^-$, $a_0^- \to K^-K^0_S$	< 1.1 × 10^{-4}	CL=95%	–
$K^0_S f_0(980)$, $f_0 \to K^+K^-$	< 9 × 10^{-5}	CL=95%	–
$K^0_S\phi$, $\phi \to K^+K^-$	(2.06 ± 0.14) × 10^{-3}		520
$K^0_L\phi$	(4.06 ± 0.23) × 10^{-3}		521
$K^0_S f_0(1370)$, $f_0 \to K^+K^-$	(1.7 ± 1.1) × 10^{-4}		–
$3K^0_S$	(7.6 ± 0.7) × 10^{-4}	S=1.4	539
$K^+2K^-\pi^+$	(2.24 ± 0.32) × 10^{-4}		434
$K^+K^-\overline{K}^*(892)^0$, $\overline{K}^{*0} \to K^-\pi^+$	(4.5 ± 1.8) × 10^{-5}		†
$K^-\pi^+\phi$, $\phi \to K^+K^-$	(4.0 ± 1.7) × 10^{-5}		422
$\phi\overline{K}^*(892)^0$, $\phi \to K^+K^-$, $\overline{K}^{*0} \to K^-\pi^+$	(1.08 ± 0.20) × 10^{-4}		†
$K^+2K^-\pi^+$ nonresonant	(3.4 ± 1.5) × 10^{-5}		434
$2K^0_S K^\pm\pi^\mp$	(6.0 ± 1.3) × 10^{-4}		427

Pionic modes

$\pi^+\pi^-$	(1.451± 0.024) × 10^{-3}	S=1.4	922
$2\pi^0$	(8.25 ± 0.25) × 10^{-4}		923
$\pi^+\pi^-\pi^0$	(1.49 ± 0.06) %	S=2.1	907
$\rho^+\pi^-$	(1.01 ± 0.04) %		764
$\rho^0\pi^0$	(3.85 ± 0.23) × 10^{-3}		764
$\rho^-\pi^+$	(5.14 ± 0.25) × 10^{-3}		764
$\rho(1450)^+\pi^-$, $\rho^+ \to \pi^+\pi^0$	(1.6 ± 2.1) × 10^{-5}		–

$\rho(1450)^0\pi^0$, $\rho^0 \to \pi^+\pi^-$	$(4.5 \pm 1.9) \times 10^{-5}$		–
$\rho(1450)^-\pi^+$, $\rho^- \to \pi^-\pi^0$	$(2.7 \pm 0.4) \times 10^{-4}$		–
$\rho(1700)^+\pi^-$, $\rho^+ \to \pi^+\pi^0$	$(6.1 \pm 1.5) \times 10^{-4}$		–
$\rho(1700)^0\pi^0$, $\rho^0 \to \pi^+\pi^-$	$(7.4 \pm 1.8) \times 10^{-4}$		–
$\rho(1700)^-\pi^+$, $\rho^- \to \pi^-\pi^0$	$(4.8 \pm 1.1) \times 10^{-4}$		–
$f_0(980)\pi^0$, $f_0 \to \pi^+\pi^-$	$(3.7 \pm 0.9) \times 10^{-5}$		–
$f_0(500)\pi^0$, $f_0 \to \pi^+\pi^-$	$(1.22 \pm 0.22) \times 10^{-4}$		–
$f_0(1370)\pi^0$, $f_0 \to \pi^+\pi^-$	$(5.5 \pm 2.1) \times 10^{-5}$		–
$f_0(1500)\pi^0$, $f_0 \to \pi^+\pi^-$	$(5.8 \pm 1.6) \times 10^{-5}$		–
$f_0(1710)\pi^0$, $f_0 \to \pi^+\pi^-$	$(4.6 \pm 1.6) \times 10^{-5}$		–
$f_2(1270)\pi^0$, $f_2 \to \pi^+\pi^-$	$(1.96 \pm 0.21) \times 10^{-4}$		–
$\pi^+\pi^-\pi^0$ nonresonant	$(1.2 \pm 0.4) \times 10^{-4}$		907
$3\pi^0$	$(2.0 \pm 0.5) \times 10^{-4}$		908
$2\pi^+2\pi^-$	$(7.15 \pm 0.25) \times 10^{-3}$	S=2.2	880
$a_1(1260)^+\pi^-$, $a_1^+ \to$ $2\pi^+\pi^-$ total	$(4.37 \pm 0.31) \times 10^{-3}$		–
$a_1(1260)^+\pi^-$, $a_1^+ \to$ $\rho^0\pi^+$ S-wave	$(2.97 \pm 0.21) \times 10^{-3}$		–
$a_1(1260)^+\pi^-$, $a_1^+ \to$ $\rho^0\pi^+$ D-wave	$(1.8 \pm 0.5) \times 10^{-4}$		–
$a_1(1260)^+\pi^-$, $a_1^+ \to$ $\sigma\pi^+$	$(6.0 \pm 0.7) \times 10^{-4}$		–
$a_1(1260)^-\pi^+$, $a_1^- \to$ $2\pi^-\pi^+$ total	$(7.4 \pm 2.1) \times 10^{-4}$		–
$a_1(1260)^-\pi^+$, $a_1^- \to$ $\rho^0\pi^-$ S-wave	$(2.2 \pm 0.8) \times 10^{-4}$		–
$a_1(1260)^-\pi^+$, $a_1^- \to \sigma\pi^-$	$(5.7 \pm 3.2) \times 10^{-5}$		–
$\pi(1300)^+\pi^-$, $\pi(1300)^+ \to$ $2\pi^+\pi^-$ total	$(2.3 \pm 0.4) \times 10^{-3}$		–
$\pi(1300)^+\pi^-$, $\pi(1300)^+ \to$ $\sigma\pi^+$	$(4.9 \pm 2.5) \times 10^{-4}$		–
$\pi(1300)^-\pi^+$, $\pi(1300)^- \to$ $2\pi^-\pi^+$ total	$(1.68 \pm 0.33) \times 10^{-3}$		–
$\pi(1300)^-\pi^+$, $\pi(1300)^- \to$ $\sigma\pi^-$	$(2.1 \pm 2.0) \times 10^{-4}$		–
$a_2(1320)^+\pi^-$, $a_2^+ \to$ $\rho^0\pi^+$ D-wave	$(1.4 \pm 1.0) \times 10^{-5}$		–
$a_2(1320)^-\pi^+$, $a_2^- \to$ $\rho^0\pi^-$ D-wave	$(2.9 \pm 1.0) \times 10^{-5}$		–
$a_1(1420)^+\pi^-$, $a_1^+ \to$ $f_0(980)\pi^+$ P-wave, $f_0 \to$ $\pi^+\pi^-$	$(4.3 \pm 2.0) \times 10^{-5}$		–
$a_1(1640)^+\pi^-$, $a_1^+ \to$ $\rho^0\pi^+$ S-wave	$(1.2 \pm 0.7) \times 10^{-4}$		–

$a_1(1640)^+\pi^-$, $a_1^+ \to$ $\rho^0\pi^+$ *D*-wave	(3.0 ± 1.5) $\times 10^{-4}$	–
$a_1(1640)^+\pi^-$, $a_1^+ \to \sigma\pi^+$	(1.7 ± 1.3) $\times 10^{-4}$	–
$a_1(1640)^-\pi^+$, $a_1^- \to$ $\rho^0\pi^-$ *S*-wave	(4 ± 4) $\times 10^{-5}$	–
$\pi_2(1670)^+\pi^-$, $\pi_2^+ \to$ $f_2(1270)^0\pi^+$, $f_2^0 \to$ $\pi^+\pi^-$	(1.9 ± 0.9) $\times 10^{-4}$	–
$\pi_2(1670)^+\pi^-$, $\pi_2^+ \to \sigma\pi^+$	(2.5 ± 1.0) $\times 10^{-4}$	–
$2\rho(770)^0$ total	(1.79 ± 0.12) $\times 10^{-3}$	518
$2\rho^0$, parallel helicities	(7.9 ± 3.0) $\times 10^{-5}$	–
$2\rho^0$, perpendicular helicities	(4.6 ± 0.6) $\times 10^{-4}$	–
$2\rho^0$, longitudinal helicities	(1.20 ± 0.10) $\times 10^{-3}$	–
$2\rho(770)^0$, *S*-wave	(1.3 ± 0.5) $\times 10^{-4}$	–
$2\rho(770)^0$, *P*-wave	(6.2 ± 1.0) $\times 10^{-4}$	–
$2\rho(770)^0$, *D*-wave	(1.2 ± 0.5) $\times 10^{-3}$	–
$\rho(770)^0\rho(1450)^0$, $\rho(1450)^0 \to \pi^+\pi^-$	(1.8 ± 1.1) $\times 10^{-4}$	–
$\rho(770)^0\rho(1450)^0$ *P*-wave, $\rho(1450)^0 \to \pi^+\pi^-$	(7 ± 5) $\times 10^{-5}$	–
$\rho(770)^0\rho(1450)^0$ *D*-wave, $\rho(1450)^0 \to \pi^+\pi^-$	(1.1 ± 1.0) $\times 10^{-4}$	–
Resonant $(\pi^+\pi^-)\pi^+\pi^-$ 3-body total	(1.43 ± 0.12) $\times 10^{-3}$	–
$(\pi^+\pi^-)_{S-wave}$	(4.5 ± 0.8) $\times 10^{-3}$	880
$(\pi^+\pi^-)_{S-wave}$ $\sigma\pi^+\pi^-$	(5.9 ± 0.8) $\times 10^{-4}$	–
$f_0(980)\pi^+\pi^-$, $f_0 \to$ $\pi^+\pi^-$	(1.7 ± 0.5) $\times 10^{-4}$	–
$\rho(770)^0(\pi^+\pi^-)_{S-wave}$	(1.9 ± 1.3) $\times 10^{-4}$	–
$\sigma\rho(770)^0$	(4.7 ± 2.4) $\times 10^{-4}$	–
$f_2(1270)\pi^+\pi^-$, $f_2 \to$ $\pi^+\pi^-$	(3.5 ± 0.6) $\times 10^{-4}$	–
$f_2(1270)^0(\pi^+\pi^-)_{S-wave}$, $f_2(1270)^0 \to \pi^+\pi^-$	(1.3 ± 1.0) $\times 10^{-4}$	–
$f_2(1270)f_2(1270)$, $f_2 \to$ $\pi^+\pi^-$	(1.5 ± 1.7) $\times 10^{-4}$	–
$f_0(1370)\sigma$, $f_0 \to \pi^+\pi^-$	(1.5 ± 0.5) $\times 10^{-3}$	–
$\pi^+\pi^-2\pi^0$	(1.002 ± 0.031) %	882
$\pi^+\pi^-2\pi^0$(non-η)	(9.51 ± 0.33) $\times 10^{-3}$	–
$a_1(1260)^+\pi^-$, $a_1^+ \to$ $\pi^+2\pi^0$ total	(5.8 ± 0.8) $\times 10^{-3}$	–

$a_1(1260)^-\pi^+$, $a_1^- \to$ $\pi^- 2\pi^0$ total		$(7.2 \pm 2.5) \times 10^{-4}$		–
$a_1(1260)^0\pi^0$, $a_1^0 \to$ $\pi^+\pi^-\pi^0$ total		$(3.3 \pm 0.9) \times 10^{-3}$		–
$a_1(1420)^+\pi^-$, $a_1^+ \to$ $f_0(980)\pi^+$ *P*-wave, $f_0 \to$ $\pi^0\pi^0$		$(3.0 \pm 1.4) \times 10^{-5}$		–
$a_1(1640)^-\pi^+$, $a_1^- \to$ $\rho^-\pi^0$ *S*-wave		$(3.0 \pm 2.8) \times 10^{-5}$		–
$a_1(1640)^+\pi^-$, $a_1^+ \to$ $\rho^+\pi^0$ *S*-wave		$(1.1 \pm 0.7) \times 10^{-4}$		–
$a_2(1320)^+\pi^-$, $a_2^+ \to$ $\rho^+\pi^0$ *D*-wave		$(2.0 \pm 1.4) \times 10^{-5}$		–
$a_2(1320)^-\pi^+$, $a_2^- \to$ $\rho^-\pi^0$ *D*-wave		$(3.0 \pm 1.4) \times 10^{-5}$		–
$h_1(1170)^0\pi^0$, $h_1^0 \to \rho\pi$		$(1.3 \pm 1.3) \times 10^{-4}$		–
$\pi(1300)^-\pi^+$, $\pi(1300)^- \to$ $\pi^- 2\pi^0$ total		$(1.14 \pm 0.27) \times 10^{-3}$		–
$\pi(1300)^+\pi^-$, $\pi(1300)^+ \to$ $\pi^+ 2\pi^0$ total		$(1.56 \pm 0.30) \times 10^{-3}$		–
$\pi(1300)^0\pi^0$, $\pi(1300)^0 \to$ $\pi^+\pi^-\pi^0$ total		$(2.3 \pm 0.4) \times 10^{-3}$		–
$\pi_2(1670)^0\pi^0$, $\pi_2(1670)^0 \to$ $\pi^+\pi^-\pi^0$ total		$(1.1 \pm 0.4) \times 10^{-4}$		–
$\rho(770)^+\rho(770)^-$		$(9.1 \pm 0.9) \times 10^{-3}$		–
$\rho(770)^+\rho(770)^-$ *S*-wave		$(1.3 \pm 0.4) \times 10^{-3}$		–
$\rho(770)^+\rho(770)^-$ *P*-wave		$(1.96 \pm 0.23) \times 10^{-3}$		–
$\rho(770)^+\rho(770)^-$ *D*-wave		$(3.6 \pm 0.4) \times 10^{-3}$		–
$\rho(770)^+\rho(1450)^-$ *D*-wave, $\rho(1450)^- \to \pi^-\pi^0$		$(1.7 \pm 2.0) \times 10^{-4}$		–
$\rho(770)^0(\pi^0\pi^0)_{S-wave}$		$(1.0 \pm 0.4) \times 10^{-4}$		–
$(\pi^+\pi^-)_{S-wave}$ $(\pi^0\pi^0)_{S-wave}$		$(3.7 \pm 0.6) \times 10^{-3}$		882
$\omega(782)\pi^0$, $\omega \to \pi^+\pi^-\pi^0$		$(9 \pm 4) \times 10^{-5}$		–
$\phi(1020)\pi^0$, $\phi(1020) \to$ $\pi^+\pi^-\pi^0$		$(1.5 \pm 0.5) \times 10^{-4}$		–
$4\pi^0$		$(7.6 \pm 1.1) \times 10^{-4}$		883
$\eta\pi^0$	[q]	$(6.3 \pm 0.5) \times 10^{-4}$	S=1.1	846
$\omega\pi^0$	[q]	$(1.17 \pm 0.35) \times 10^{-4}$		761
$\omega\eta$		$(1.98 \pm 0.18) \times 10^{-3}$	S=1.1	648
$2\pi^+ 2\pi^-\pi^0$		$(3.46 \pm 0.21) \times 10^{-3}$		844
$\pi^+\pi^- 3\pi^0$		$(1.53 \pm 0.21) \times 10^{-3}$		847
$2\pi^+ 2\pi^- 2\pi^0$		$(4.8 \pm 0.4) \times 10^{-3}$		798
$\eta\pi^+\pi^-$	[q]	$(1.16 \pm 0.07) \times 10^{-3}$		827
$\rho(770)^0\eta$, $\rho^0 \to \pi^+\pi^-$		$(1.77 \pm 0.25) \times 10^{-4}$		–

$a_0(980)^-\pi^+,\ a_0^-\to\ \pi^-\eta$	(6.9 ± 1.9) $\times 10^{-5}$			–
$a_0(980)^+\pi^-,\ a_0^+\to\ \pi^+\eta$	(5.1 ± 0.8) $\times 10^{-4}$			–
$a_2(1320)^+\pi^-,\ a_2^+\to\ \pi^+\eta$	(2.4 ± 1.4) $\times 10^{-5}$			–
$a_2(1700)^+\pi^-,\ a_2^+\to\ \pi^+\eta$	(6 ± 4) $\times 10^{-5}$			–
$(\pi^+\pi^-)_{S-wave}\eta$	(4.5 ± 3.2) $\times 10^{-5}$			827
$\omega\pi^+\pi^-$	[q] (1.33 ± 0.20) $\times 10^{-3}$			738
$\omega\pi^0\pi^0$	< 1.10 $\times 10^{-3}$		CL=90%	740
$\eta 2\pi^0$	(3.8 ± 1.3) $\times 10^{-4}$			829
$\pi^+\pi^-\pi^0\eta$	(3.23 ± 0.22) $\times 10^{-3}$			797
$\eta 3\pi^0$	(2.36 ± 0.28) $\times 10^{-3}$			799
$\eta 2\pi^+2\pi^-$	(6.0 ± 1.2) $\times 10^{-4}$			751
$3\pi^+3\pi^-$	(4.3 ± 1.2) $\times 10^{-4}$			795
$\eta'(958)\pi^0$	(9.2 ± 1.0) $\times 10^{-4}$			678
$\eta'(958)\pi^+\pi^-$	(4.5 ± 1.7) $\times 10^{-4}$			650
2η	(2.11 ± 0.19) $\times 10^{-3}$		S=2.3	754
$2\eta\pi^0$	(7.3 ± 2.2) $\times 10^{-4}$			699
$2\eta\pi^+\pi^-$	(8.5 ± 1.4) $\times 10^{-4}$			623
3η	< 1.3 $\times 10^{-4}$		CL=90%	421
$\eta\eta'(958)$	(1.01 ± 0.19) $\times 10^{-3}$			537

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

K^+K^-	(4.07 ± 0.06) $\times 10^{-3}$		S=1.6	791
$2K_S^0$	(1.41 ± 0.05) $\times 10^{-4}$		S=1.1	789
$K_S^0K^-\pi^+$	(3.4 ± 0.5) $\times 10^{-3}$		S=1.1	739
$\overline{K}^*(892)^0K_S^0,\ \overline{K}^{*0}\to$ $K^-\pi^+$	(8.3 ± 1.6) $\times 10^{-5}$			608
$K^*(892)^+K^-,\ K^{*+}\to$ $K_S^0\pi^+$	(1.91 ± 0.30) $\times 10^{-3}$			–
$\overline{K}^*(1410)^0K_S^0,\ \overline{K}^{*0}\to$ $K^-\pi^+$	(1.3 ± 1.9) $\times 10^{-4}$			–
$K^*(1410)^+K^-,\ K^{*+}\to$ $K_S^0\pi^+$	(3.2 ± 1.9) $\times 10^{-4}$			–
$(K^-\pi^+)_{S-wave}K_S^0$	(6.0 ± 2.9) $\times 10^{-4}$			739
$(K_S^0\pi^+)_{S-wave}K^-$	(3.9 ± 1.0) $\times 10^{-4}$			739
$a_0(980)^-\pi^+,\ a_0^-\to\ K_S^0K^-$	(1.3 ± 1.4) $\times 10^{-4}$			–
$a_0(1450)^-\pi^+,\ a_0^-\to$ $K_S^0K^-$	(2.5 ± 2.0) $\times 10^{-5}$			–
$a_2(1320)^-\pi^+,\ a_2^-\to$ $K_S^0K^-$	(5 ± 5) $\times 10^{-6}$			–
$\rho(1450)^-\pi^+,\ \rho^-\to\ K_S^0K^-$	(4.7 ± 2.5) $\times 10^{-5}$			–
$K_S^0K^+\pi^-$	(2.19 ± 0.34) $\times 10^{-3}$		S=1.1	739
$K^*(892)^0K_S^0,\ K^{*0}\to$ $K^+\pi^-$	(1.13 ± 0.21) $\times 10^{-4}$			608

$K^*(892)^- K^+$, $K^{*-} \to K^0_S \pi^-$	$(6.3 \pm 1.0) \times 10^{-4}$		–
$K^*(1410)^0 K^0_S$, $K^{*0} \to K^+ \pi^+$	$(5 \pm 8) \times 10^{-5}$		–
$K^*(1410)^- K^+$, $K^{*-} \to K^0_S \pi^-$	$(2.6 \pm 2.1) \times 10^{-4}$		–
$(K^+ \pi^-)_{S-wave} K^0_S$	$(3.7 \pm 1.9) \times 10^{-4}$		739
$(K^0_S \pi^-)_{S-wave} K^+$	$(1.4 \pm 0.6) \times 10^{-4}$		739
$a_0(980)^+ \pi^-$, $a_0^+ \to K^0_S K^+$	$(6 \pm 4) \times 10^{-4}$		–
$a_0(1450)^+ \pi^-$, $a_0^+ \to K^0_S K^+$	$(3.3 \pm 2.6) \times 10^{-5}$		–
$\rho(1700)^+ \pi^-$, $\rho^+ \to K^0_S K^+$	$(1.2 \pm 0.6) \times 10^{-5}$		–
$K^+ K^- \pi^0$	$(3.41 \pm 0.14) \times 10^{-3}$		743
$K^*(892)^+ K^-$, $K^*(892)^+ \to K^+ \pi^0$	$(1.51 \pm 0.07) \times 10^{-3}$		–
$K^*(892)^- K^+$, $K^*(892)^- \to K^- \pi^0$	$(5.4 \pm 0.4) \times 10^{-4}$		–
$(K^+ \pi^0)_{S-wave} K^-$	$(2.42 \pm 0.17) \times 10^{-3}$		743
$(K^- \pi^0)_{S-wave} K^+$	$(1.3 \pm 0.5) \times 10^{-4}$		743
$f_0(980) \pi^0$, $f_0 \to K^+ K^-$	$(3.6 \pm 0.6) \times 10^{-4}$		–
$\phi \pi^0$, $\phi \to K^+ K^-$	$(6.6 \pm 0.4) \times 10^{-4}$		–
$2K^0_S \pi^0$	$< 1.45 \times 10^{-4}$	CL=90%	740
$K^+ K^- \eta$	$(5.9 \pm 1.9) \times 10^{-5}$		514
$\phi(1020) \eta$	$(1.80 \pm 0.12) \times 10^{-4}$		489
$K^+ K^- \eta$ nonresonant	$(9.9 \, {}^{+\,0.9}_{-\,0.8}) \times 10^{-5}$		514
$2K^0_S \eta$	$(1.3 \pm 0.6) \times 10^{-4}$		508
$K^+ K^- \pi^0 \pi^0$	$(6.9 \pm 0.8) \times 10^{-4}$		681
$K^+ K^- \pi^+ \pi^-$	$(2.78 \pm 0.17) \times 10^{-3}$	S=3.6	677
$\phi(\pi^+ \pi^-)_{S-wave}$, $\phi \to K^+ K^-$	$(1.1 \pm 0.6) \times 10^{-4}$		614
$(\phi \rho^0)_{S-wave}$, $\phi \to K^+ K^-$	$(7.8 \pm 0.8) \times 10^{-4}$		250
$(\phi \rho^0)_{P-wave}$, $\phi \to K^+ K^-$	$(4.4 \pm 2.1) \times 10^{-5}$		–
$(\phi \rho^0)_{D-wave}$, $\phi \to K^+ K^-$	$(4.7 \pm 1.6) \times 10^{-5}$		–
$(K^*(892)^0 \overline{K}^*(892)^0)_{S-wave}$, $K^{*0} \to K^\pm \pi^\mp$	$(2.52 \pm 0.18) \times 10^{-4}$		–
$(K^*(892)^0 \overline{K}^*(892)^0)_{P-wave}$, $K^* \to K^\pm \pi^\mp$	$(1.35 \pm 0.11) \times 10^{-4}$		–
$(K^*(892)^0 \overline{K}^*(892)^0)_{D-wave}$, $K^* \to K^\pm \pi^\mp$	$(5.3 \pm 0.5) \times 10^{-5}$		–
$K^*(892)^0 (K^- \pi^+)_{S-wave}$ 3-body, $K^{*0} \to K^+ \pi^-$	$(1.6 \pm 0.7) \times 10^{-4}$		–
$K_1(1270)^+ K^-$, $K_1^+ \to K^{*0} \pi^+$	$(1.5 \pm 1.0) \times 10^{-4}$		–

$K_1(1270)^+ K^-$, $K_1^+ \to K^*(1430)^0 \pi^+$, $K^{*0} \to K^+ \pi^-$		$(\ 1.7 \pm 0.6\ ) \times 10^{-4}$		–
$K_1(1270)^+ K^-$, $K_1^+ \to \rho^0 K^+$		$(\ 2.5 \pm 0.7\ ) \times 10^{-4}$		–
$K_1(1270)^+ K^-$, $K_1^+ \to \omega(782) K^+$, $\omega \to \pi^+ \pi^-$		$(\ 1.7 \pm 1.4\ ) \times 10^{-5}$		–
$K_1(1270)^- K^+$, $K_1^- \to \rho^0 K^-$		$(\ 1.5 \pm 0.4\ ) \times 10^{-4}$		–
$K_1(1400)^+ K^-$, $K_1^+ \to K^*(892)^0 \pi^+$, $K^{*0} \to K^+ \pi^-$		$(\ 5.2 \pm 0.5\ ) \times 10^{-4}$		–
$K^*(1410)^- K^+$, $K^{*-} \to \overline{K}^{*0} \pi^-$		$(\ 7.8 \pm 1.3\ ) \times 10^{-5}$		–
$K_1(1680)^+ K^-$, $K_1^+ \to K^{*0} \pi^+$, $K^{*0} \to K^+ \pi^-$		$(\ 1.0 \pm 0.4\ ) \times 10^{-4}$		–
$K^+ K^- \pi^+ \pi^-$ non-resonant		$(\ 3.1 \pm 0.7\ ) \times 10^{-4}$		–
$2K_S^0 \pi^+ \pi^-$		$(\ 5.3 \pm 0.9\ ) \times 10^{-4}$		673
$K_S^0 K^- \pi^+ \pi^0$		$(\ 1.32 \pm 0.16\ ) \times 10^{-3}$		677
$K_S^0 K^+ \pi^- \pi^0$		$(\ 6.5 \pm 0.7\ ) \times 10^{-4}$		677
$K_S^0 K^- 2\pi^+ \pi^-$		$< 1.5 \times 10^{-4}$	CL=90%	595
$K^+ K^- \pi^+ \pi^- \pi^0$		$(\ 3.1 \pm 2.0\ ) \times 10^{-3}$		600

Other $K\overline{K}X$ modes. They include all decay modes of the ϕ, η, and ω.

$\phi\pi^0$		$(\ 1.17 \pm 0.04\ ) \times 10^{-3}$		645
$\phi\eta$		$(\ 1.8 \pm 0.5\ ) \times 10^{-4}$		489
$\phi\omega$		$(\ 6.5 \pm 1.0\ ) \times 10^{-4}$		238

Radiative modes

$\rho^0\gamma$		$(\ 1.81 \pm 0.31\ ) \times 10^{-5}$		771
$\omega\gamma$		$< 2.4 \times 10^{-4}$	CL=90%	768
$\phi\gamma$		$(\ 2.80 \pm 0.19\ ) \times 10^{-5}$		654
$\overline{K}^*(892)^0\gamma$		$(\ 4.1 \pm 0.7\ ) \times 10^{-4}$		719

Doubly Cabibbo suppressed (*DC*) modes or $\Delta C = 2$ forbidden via mixing (*C2M*) modes

$K^+ \ell^- \overline{\nu}_\ell$ via $\overline{D}^0$		$[r] < 2.2 \times 10^{-5}$	CL=90%	–
K^+ or $K^*(892)^+ e^- \overline{\nu}_e$ via $\overline{D}^0$		$< 6 \times 10^{-5}$	CL=90%	–
$K^+\pi^-$	*DC*	$(\ 1.48 \pm 0.07\ ) \times 10^{-4}$	S=3.1	861
$K^+\pi^-$ via DCS		$(\ 1.359 \pm 0.025) \times 10^{-4}$		–
$K^+\pi^-$ via $\overline{D}^0$		$< 1.6 \times 10^{-5}$	CL=95%	861
$K_S^0\pi^+\pi^-$ in $D^0 \to \overline{D}^0$		$< 1.8 \times 10^{-4}$	CL=95%	–
$K^*(892)^+\pi^-$, $K^{*+} \to K_S^0\pi^+$	*DC*	$(\ 1.14\ ^{+\ 0.60}_{-\ 0.34}\ ) \times 10^{-4}$		711

$K_0^*(1430)^+\pi^-$, $K_0^{*+} \to K_S^0\pi^+$	*DC*	<	1.4	$\times 10^{-5}$		–
$K_2^*(1430)^+\pi^-$, $K_2^{*+} \to K_S^0\pi^+$	*DC*	<	3.4	$\times 10^{-5}$		–
$K^+\pi^-\pi^0$	*DC*	(	3.05 ± 0.13)	$\times 10^{-4}$	S=1.3	844
$K^+\pi^-\pi^0$ via $\overline{D}^0$		(	7.6 ± 0.5)	$\times 10^{-4}$		–
$K^+\pi^-\eta$		(	1.04 ± 0.18)	$\times 10^{-4}$		721
$K^+\pi^-2\pi^0$		(	1.40 ± 0.28)	$\times 10^{-4}$		815
$K^+\pi^+2\pi^-$ via DCS		(	2.48 ± 0.07)	$\times 10^{-4}$		–
$K^+\pi^+2\pi^-$	*DC*	(	2.64 ± 0.06)	$\times 10^{-4}$	S=1.1	813
$K^+\pi^+2\pi^-$ via $\overline{D}^0$		(	7.9 ± 3.0)	$\times 10^{-6}$		812
$K^+\pi^-\pi^0\eta$		<	7	$\times 10^{-5}$	CL=90%	656
μ^- anything via $\overline{D}^0$		<	4	$\times 10^{-4}$	CL=90%	–

$\Delta C = 1$ weak neutral current (*C1*) modes, Lepton Family number (*LF*) violating modes, Lepton (*L*) or Baryon (*B*) number violating modes

$\gamma\gamma$	*C1*	<	8.5	$\times 10^{-7}$	CL=90%	932
e^+e^-	*C1*	<	7.9	$\times 10^{-8}$	CL=90%	932
$\mu^+\mu^-$	*C1*	<	2.1	$\times 10^{-9}$	CL=90%	926
$\pi^0 e^+e^-$	*C1*	<	4	$\times 10^{-6}$	CL=90%	928
$\pi^0\mu^+\mu^-$	*C1*	<	1.8	$\times 10^{-4}$	CL=90%	915
$\pi^0\nu\overline{\nu}$		<	2.1	$\times 10^{-4}$	CL=90%	928
ηe^+e^-	*C1*	<	3	$\times 10^{-6}$	CL=90%	852
$\eta\mu^+\mu^-$	*C1*	<	5.3	$\times 10^{-4}$	CL=90%	838
$\pi^+\pi^-e^+e^-$	*C1*	<	7	$\times 10^{-6}$	CL=90%	922
$\rho^0 e^+e^-$	*C1*	<	1.0	$\times 10^{-4}$	CL=90%	771
$\pi^+\pi^-\mu^+\mu^-$	*C1*	(	9.6 ± 1.2)	$\times 10^{-7}$		894
$\pi^+\pi^-\mu^+\mu^-$ (non-res)		<	5.5	$\times 10^{-7}$	CL=90%	–
$\rho^0\mu^+\mu^-$	*C1*	<	2.2	$\times 10^{-5}$	CL=90%	754
ωe^+e^-	*C1*	<	6	$\times 10^{-6}$	CL=90%	768
$\omega\mu^+\mu^-$	*C1*	<	8.3	$\times 10^{-4}$	CL=90%	751
$K^-K^+e^+e^-$	*C1*	<	1.1	$\times 10^{-5}$	CL=90%	791
ϕe^+e^-	*C1*	<	5.2	$\times 10^{-5}$	CL=90%	654
$K^-K^+\mu^+\mu^-$	*C1*	(	1.54 ± 0.32)	$\times 10^{-7}$		710
$K^-K^+\mu^+\mu^-$ (non-res)		<	3.3	$\times 10^{-5}$	CL=90%	–
$\phi\mu^+\mu^-$	*C1*	<	3.1	$\times 10^{-5}$	CL=90%	631
$\overline{K}^0 e^+e^-$		[*h*] <	2.4	$\times 10^{-5}$	CL=90%	866
$\overline{K}^0\mu^+\mu^-$		[*h*] <	2.6	$\times 10^{-4}$	CL=90%	852
$K^-\pi^+e^+e^-$, 675 < m_{ee} < 875 MeV		(	4.0 ± 0.4)	$\times 10^{-6}$		–
$K^-\pi^+e^+e^-$, 1.005 < m_{ee} < 1.035 GeV		<	5	$\times 10^{-7}$	CL=90%	–
$\overline{K}^*(892)^0 e^+e^-$		[*h*] <	4.7	$\times 10^{-5}$	CL=90%	719

$K^-\pi^+\mu^+\mu^-$	*C1*	$<$	3.59	$\times 10^{-4}$	CL=90%	829
$K^-\pi^+\mu^+\mu^-$, 675 $<$ $m_{\mu\mu}$ $<$ 875 MeV			(4.2 $\pm$ 0.4)	$\times 10^{-6}$		–
$\overline{K}^*(892)^0\mu^+\mu^-$		[*h*] $<$	2.4	$\times 10^{-5}$	CL=90%	700
$\pi^+\pi^-\pi^0\mu^+\mu^-$	*C1*	$<$	8.1	$\times 10^{-4}$	CL=90%	863
$\mu^\pm e^\mp$	*LF*	[*s*] $<$	1.3	$\times 10^{-8}$	CL=90%	929
$\pi^0 e^\pm\mu^\mp$	*LF*	[*s*] $<$	8.0	$\times 10^{-7}$	CL=90%	924
$\eta e^\pm\mu^\mp$	*LF*	[*s*] $<$	2.25	$\times 10^{-6}$	CL=90%	848
$\pi^+\pi^- e^\pm\mu^\mp$	*LF*	[*s*] $<$	1.71	$\times 10^{-6}$	CL=90%	911
$\rho^0 e^\pm\mu^\mp$	*LF*	[*s*] $<$	5.0	$\times 10^{-7}$	CL=90%	767
$\omega e^\pm\mu^\mp$	*LF*	[*s*] $<$	1.71	$\times 10^{-6}$	CL=90%	764
$K^-K^+ e^\pm\mu^\mp$	*LF*	[*s*] $<$	1.00	$\times 10^{-6}$	CL=90%	754
$\phi e^\pm\mu^\mp$	*LF*	[*s*] $<$	5.1	$\times 10^{-7}$	CL=90%	648
$\overline{K}^0 e^\pm\mu^\mp$	*LF*	[*s*] $<$	1.74	$\times 10^{-6}$	CL=90%	863
$K^-\pi^+ e^\pm\mu^\mp$	*LF*	[*s*] $<$	1.90	$\times 10^{-6}$	CL=90%	848
$\overline{K}^*(892)^0 e^\pm\mu^\mp$	*LF*	[*s*] $<$	1.25	$\times 10^{-6}$	CL=90%	714
$2\pi^- 2e^+$	*L*	$<$	9.1	$\times 10^{-7}$	CL=90%	922
$2\pi^- 2\mu^+$	*L*	$<$	1.52	$\times 10^{-6}$	CL=90%	894
$K^-\pi^- 2e^+$	*L*	$<$	5.0	$\times 10^{-7}$	CL=90%	861
$K^-\pi^- 2\mu^+$	*L*	$<$	5.3	$\times 10^{-7}$	CL=90%	829
$2K^- 2e^+$	*L*	$<$	3.4	$\times 10^{-7}$	CL=90%	791
$2K^- 2\mu^+$	*L*	$<$	1.0	$\times 10^{-7}$	CL=90%	710
$\pi^-\pi^- e^+\mu^+$	*L*	$<$	3.06	$\times 10^{-6}$	CL=90%	911
$K^-\pi^- e^+\mu^+$	*L*	$<$	2.10	$\times 10^{-6}$	CL=90%	848
$2K^- e^+\mu^+$	*L*	$<$	5.8	$\times 10^{-7}$	CL=90%	754
$p e^-$	*L*,*B*	$<$	5.5	$\times 10^{-7}$	CL=90%	696
$\overline{p} e^+$	*L*,*B*	$<$	6.9	$\times 10^{-7}$	CL=90%	696
$p\mu^-$	*L*,*B*	$<$	5.1	$\times 10^{-7}$	CL=90%	691
$\overline{p}\mu^+$	*L*,*B*	$<$	6.3	$\times 10^{-7}$	CL=90%	691
Exotic modes						
$\gamma\gamma_D$		[*t*] $<$	2.0	$\times 10^{-6}$	CL=90%	–
$\omega\gamma_D$		[*t*] $<$	1.1	$\times 10^{-5}$	CL=90%	–

$D^*(2007)^0$

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

Mass $m = 2006.86 \pm 0.05$ MeV (S = 1.1)
$m_{D^{*0}} - m_{D^0} = 142.014 \pm 0.030$ MeV (S = 1.5)
Full width $\Gamma < 2.1$ MeV, CL = 90%

$\overline{D}^*(2007)^0$ modes are charge conjugates of modes below.

$D^*(2007)^0$ DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$D^0\pi^0$	(64.7 $\pm$0.9) %		43
$D^0\gamma$	(35.3 $\pm$0.9) %		137

$D^0 e^+ e^-$	$(\ 3.91 \pm 0.33) \times 10^{-3}$			137
$\mu^+ \mu^-$	$<\ 2.5$	$\times 10^{-8}$	90%	998
$e^+ e^-$	$<\ 1.7$	$\times 10^{-6}$	90%	1003

$D^*(2010)^\pm$

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

Mass $m = 2010.27 \pm 0.04$ MeV
$m_{D^*(2010)^+} - m_{D^+} = 140.603 \pm 0.015$ MeV
$m_{D^*(2010)^+} - m_{D^0} = 145.4257 \pm 0.0017$ MeV
Full width $\Gamma = 83.4 \pm 1.8$ keV

$D^*(2010)^-$ modes are charge conjugates of the modes below.

$D^*(2010)^\pm$ DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)
$D^0 \pi^+$	(67.7±0.5) %		39
$D^+ \pi^0$	(30.7±0.5) %		38
$D^+ \gamma$	(1.6±0.4) %		136
$e^+ \nu_e$	$<\ 1.1 \times 10^{-5}$	90%	1005
$\mu^+ \nu_\mu$	$<\ 4.3 \times 10^{-6}$	90%	1002

$D_0^*(2300)$

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

was $D_0^*(2400)$

Mass $m = 2343 \pm 10$ MeV (S = 1.5)
Full width $\Gamma = 229 \pm 16$ MeV

$D_0^*(2300)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$D \pi^\pm$	seen	411

$D_1(2420)$

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

Mass $m = 2422.1 \pm 0.6$ MeV (S = 1.7)
$m_{D_1(2420)^0} - m_{D^{*+}} = 411.8 \pm 0.6$ MeV (S = 1.7)
$m_{D_1(2420)^\pm} - m_{D_1(2420)^0} = 4 \pm 4$ MeV
Full width $\Gamma = 31.3 \pm 1.9$ MeV (S = 2.8)

$\overline{D}_1(2420)$ modes are charge conjugates of modes below.

$D_1(2420)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$D^*(2007)^0 \pi$	seen	359

$D_1(2430)^0$

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

Mass $m = 2412 \pm 9$ MeV
Full width $\Gamma = 314 \pm 29$ MeV

$D_1(2430)^0$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$D^*(2010)^+\pi^-$	seen	345

$D_2^*(2460)$

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

Mass $m = 2461.1 \pm 0.8$ MeV (S = 6.3)
$m_{D_2^*(2460)^0} - m_{D^+} = 591.5 \pm 0.8$ MeV (S = 6.0)
$m_{D_2^*(2460)^0} - m_{D^{*+}} = 450.9 \pm 0.8$ MeV (S = 6.0)
$m_{D_2^*(2460)^\pm} - m_{D_2^*(2460)^0} = 2.4 \pm 1.7$ MeV
Full width $\Gamma = 47.3 \pm 0.8$ MeV (S = 1.5)

$\overline{D}_2^*(2460)$ modes are charge conjugates of modes below.

$D_2^*(2460)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$D\pi^-$	seen	509
$D^*(2010)\pi^-$	seen	389

$D_3^*(2750)$

$I(J^P) = \frac{1}{2}(3^-)$

Mass $m = 2763.1 \pm 3.2$ MeV (S = 2.1)
Full width $\Gamma = 66 \pm 5$ MeV

$D_3^*(2750)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$D\pi$	seen	743
$D^+\pi^-$	seen	739
$D^0\pi^\pm$	seen	743
$D^*\pi$	seen	639
$D^{*+}\pi^-$	seen	639

NOTES

[*a*] This result applies to $Z^0 \to\ c\overline{c}$ decays only. Here ℓ^+ is an average (not a sum) of e^+ and μ^+ decays.

[*b*] See the Particle Listings for the (complicated) definition of this quantity.

[*c*] The branching fraction for this mode may differ from the sum of the submodes that contribute to it, due to interference effects. See the relevant papers in the Particle Listings.

[*d*] These subfractions of the $K^-2\pi^+$ mode are uncertain: see the Particle Listings.

[*e*] See the listings under "$D \to\ K\pi\pi\pi$ partial wave analyses" and our 2008 Review (Physics Letters **B667** 1 (2008)) for measurements of submodes of this mode.

[*f*] The unseen decay modes of the resonances are included.

[*g*] This is *not* a test for the ΔC=1 weak neutral current, but leads to the $\pi^+\ell^+\ell^-$ final state.

[*h*] This mode is not a useful test for a ΔC=1 weak neutral current because both quarks must change flavor in this decay.

[*i*] In the 2010 *Review*, the values for these quantities were given using a measure of the asymmetry that was inconsistent with the usual definition.

[*j*] This value is obtained by subtracting the branching fractions for 2-, 4- and 6-prongs from unity.

[*k*] This is the sum of our $K^-2\pi^+\pi^-$, $K^-2\pi^+\pi^-\pi^0$, $\overline{K}^0 2\pi^+2\pi^-$, $K^+2K^-\pi^+$, $2\pi^+2\pi^-$, $2\pi^+2\pi^-\pi^0$, $K^+K^-\pi^+\pi^-$, and $K^+K^-\pi^+\pi^-\pi^0$, branching fractions.

[*l*] This is the sum of our $K^-3\pi^+2\pi^-$ and $3\pi^+3\pi^-$ branching fractions.

[*n*] The branching fractions for the $K^-e^+\nu_e$, $K^*(892)^-e^+\nu_e$, $\pi^-e^+\nu_e$, and $\rho^-e^+\nu_e$ modes add up to 6.17 $\pm$ 0.17 %.

[*o*] This is a doubly Cabibbo-suppressed mode.

[*p*] Submodes of the $D^0 \to\ K^0_S\pi^+\pi^-\pi^0$ mode with a K^* and/or ρ were studied by COFFMAN 92B, but with only 140 events. With nothing new for 18 years, we refer to our 2008 edition, Physics Letters **B667** 1 (2008), for those results.

[*q*] This branching fraction includes all the decay modes of the resonance in the final state.

[*r*] This limit assumes the average of B($D^0 \to\ K^-e^+\nu_e$) and B($D^0 \to K^-\mu^+\nu_\mu$) for the B($D^0 \to\ K^-\ell^+\nu_\ell$) value.

[*s*] The value is for the sum of the charge states or particle/antiparticle states indicated.

[*t*] Here γ_D stands for massless dark photon.