Meson Summary Table

$f_4(2050)$ $I^G(J^{PC}) = 0^+(4^{++})$

Mass $m = 2044 \pm 11$ MeV (S = 1.4)
Full width $\Gamma = 208 \pm 13$ MeV (S = 1.2)

$f_4(2050)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\omega\omega$	(26 ±6) %	658
$\pi\pi$	(17.0±1.5) %	1012
$K\overline{K}$	$(6.8^{+3.4}_{-1.8}) \times 10^{-3}$	895
$\eta\eta$	(2.1±0.8) $\times 10^{-3}$	863
$4\pi^0$	< 1.2 %	977

$f_2(2300)$ $I^G(J^{PC}) = 0^+(2^{++})$

Mass $m = 2297 \pm 28$ MeV
Full width $\Gamma = 149 \pm 40$ MeV

$f_2(2300)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\phi\phi$	seen	529

$f_2(2340)$ $I^G(J^{PC}) = 0^+(2^{++})$

Mass $m = 2339 \pm 60$ MeV
Full width $\Gamma = 319^{+80}_{-70}$ MeV

$f_2(2340)$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)
$\phi\phi$	seen	573

STRANGE MESONS ($S = \pm 1, C = B = 0$)

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

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

Mass $m = 493.677 \pm 0.016$ MeV (S = 2.8)
Mean life $\tau = (1.2371 \pm 0.0029) \times 10^{-8}$ s (S = 2.2)
$c\tau = 3.709$ m

Slope parameter g [r]

(See Full Listings for quadratic coefficients)

$K^+ \to \pi^+\pi^+\pi^- = -0.2154 \pm 0.0035$ (S = 1.4)
$K^- \to \pi^-\pi^-\pi^+ = -0.217 \pm 0.007$ (S = 2.5)
$K^\pm \to \pi^\pm\pi^0\pi^0 = 0.594 \pm 0.019$ (S = 1.3)

$K^\pm$ decay form factors [b,s]

K^+_{e3} $\lambda_+ = 0.0286 \pm 0.0022$
$K^+_{\mu3}$ $\lambda_+ = 0.033 \pm 0.008$ (S = 1.6)
$K^+_{\mu3}$ $\lambda_0 = 0.004 \pm 0.007$ (S = 1.6)
K^+_{e3} $|f_S/f_+| = 0.084 \pm 0.023$ (S = 1.2)
K^+_{e3} $|f_T/f_+| = 0.38 \pm 0.11$ (S = 1.1)
$K^+_{\mu3}$ $|f_T/f_+| = 0.02 \pm 0.12$
$K^+ \to e^+\nu_e\gamma$ $|F_A + F_V| = 0.148 \pm 0.010$
$K^+ \to \mu^+\nu_\mu\gamma$ $|F_A + F_V| < 0.23$, CL = 90%
$K^+ \to e^+\nu_e\gamma$ $|F_A - F_V| < 0.49$
$K^+ \to \mu^+\nu_\mu\gamma$ $|F_A - F_V| = -2.2$ to 0.3

K^- modes are charge conjugates of the modes below.

K^+ DECAY MODES		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)
$\mu^+\nu_\mu$		(63.51±0.18) %	S=1.3	236
$e^+\nu_e$		(1.55±0.07) $\times 10^{-5}$		247
$\pi^+\pi^0$		(21.16±0.14) %	S=1.1	205
$\pi^+\pi^+\pi^-$		(5.59±0.05) %	S=1.9	125
$\pi^+\pi^0\pi^0$		(1.73±0.04) %	S=1.2	133
$\pi^0\mu^+\nu_\mu$		(3.18±0.08) %	S=1.5	215
Called $K^+_{\mu3}$.				
$\pi^0 e^+\nu_e$		(4.82±0.06) %	S=1.3	228
Called K^+_{e3}.				
$\pi^0\pi^0 e^+\nu_e$		(2.1 ±0.4) $\times 10^{-5}$		206
$\pi^+\pi^- e^+\nu_e$		(3.91±0.17) $\times 10^{-5}$		203
$\pi^+\pi^-\mu^+\nu_\mu$		(1.4 ±0.9) $\times 10^{-5}$		151
$\pi^0\pi^0\pi^0 e^+\nu_e$		< 3.5 $\times 10^{-6}$	CL=90%	135
$\pi^+\gamma\gamma$	[t]	< 1 $\times 10^{-6}$	CL=90%	227
$\pi^+ 3\gamma$	[t]	< 1.0 $\times 10^{-4}$	CL=90%	227
$e^+\nu_e\nu\overline{\nu}$		< 6 $\times 10^{-5}$	CL=90%	247
$\mu^+\nu_\mu\nu\overline{\nu}$		< 6.0 $\times 10^{-6}$	CL=90%	236
$\mu^+\nu_\mu e^+ e^-$		(1.06±0.32) $\times 10^{-6}$		236
$e^+\nu_e e^+ e^-$		(2.1 $^{+2.1}_{-1.1}$) $\times 10^{-7}$		247
$\mu^+\nu_\mu\mu^+\mu^-$		< 4.1 $\times 10^{-7}$	CL=90%	185
$\mu^+\nu_\mu\gamma$	[t,u]	(5.50±0.28) $\times 10^{-3}$		236
$\pi^+\pi^0\gamma$	[t,u]	(2.75±0.15) $\times 10^{-4}$		205
$\pi^+\pi^0\gamma$(DE)	[t,v]	(1.8 ±0.4) $\times 10^{-5}$		205
$\pi^+\pi^+\pi^-\gamma$	[t,u]	(1.04±0.31) $\times 10^{-4}$		125
$\pi^+\pi^0\pi^0\gamma$	[t,u]	(7.4 $^{+5.5}_{-2.9}$) $\times 10^{-6}$		133
$\pi^0\mu^+\nu_\mu\gamma$	[t,u]	< 6.1 $\times 10^{-5}$	CL=90%	215
$\pi^0 e^+\nu_e\gamma$	[t,u]	(2.62±0.20) $\times 10^{-4}$		228
$\pi^0 e^+\nu_e\gamma$(SD)	[w]	< 5.3 $\times 10^{-5}$	CL=90%	228
$\pi^0\pi^0 e^+\nu_e\gamma$		< 5 $\times 10^{-6}$	CL=90%	206

Lepton Family number (LF), Lepton number (L), $\Delta S = \Delta Q$ (SQ) violating modes, or $\Delta S = 1$ weak neutral current ($S1$) modes

$\pi^+\pi^+ e^-\overline{\nu}_e$	SQ	< 1.2	$\times 10^{-8}$	CL=90%	203
$\pi^+\pi^+\mu^-\overline{\nu}_\mu$	SQ	< 3.0	$\times 10^{-6}$	CL=95%	151
$\pi^+ e^+ e^-$	$S1$	(2.74±0.23)	$\times 10^{-7}$		227
$\pi^+\mu^+\mu^-$	$S1$	< 2.3	$\times 10^{-7}$	CL=90%	172
$\pi^+\nu\overline{\nu}$	$S1$	< 5.2	$\times 10^{-9}$	CL=90%	227
$\mu^-\nu e^+ e^+$	LF	< 2.0	$\times 10^{-8}$	CL=90%	236
$\mu^+\nu_e$	LF [e]	< 4	$\times 10^{-3}$	CL=90%	236
$\pi^+\mu^+ e^-$	LF	< 2.1	$\times 10^{-10}$	CL=90%	214
$\pi^+\mu^- e^+$	LF	< 7	$\times 10^{-9}$	CL=90%	214
$\pi^-\mu^+ e^+$	L	< 7	$\times 10^{-9}$	CL=90%	214
$\pi^- e^+ e^+$	L	< 1.0	$\times 10^{-8}$	CL=90%	227
$\pi^-\mu^+\mu^+$	L	< 1.5	$\times 10^{-4}$	CL=90%	172
$\mu^+\overline{\nu}_e$	L [e]	< 3.3	$\times 10^{-3}$	CL=90%	236
$\pi^0 e^+\overline{\nu}_e$	L [e]	< 3	$\times 10^{-3}$	CL=90%	228

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

50% K_S, 50% K_L
Mass $m = 497.672 \pm 0.031$ MeV
$m_{K^0} - m_{K^\pm} = 3.995 \pm 0.034$ MeV (S = 1.1)