CHARMED, STRANGE MESONS ($C = \pm1$, $S = \pm1$) (including possibly non-$q\overline{q}$ states)

$D_s^+ = c\overline{s}$, $D_s^- = \overline{c}\,s$, similarly for D_s^*'s

NODE=MXXX040

$D_s^{\pm}$

$I(J^P) = 0(0^-)$

NODE=S034

Mass $m = 1968.35 \pm 0.07$ MeV NODE=S034M;DTYPE=M

$m_{D_s^{\pm}} - m_{D^{\pm}} = 98.69 \pm 0.05$ MeV NODE=S034DM;DTYPE=D

Mean life $\tau = (501.2 \pm 2.2) \times 10^{-15}$ s (S = 1.3) NODE=S034T;DTYPE=T

$c\tau = 150.3\ \mu$m NODE=S034CTA;DTYPE=C;OUR EVAL

CP-violating decay-rate asymmetries

CLUMP=P

$A_{CP}(\mu^{\pm}\nu) = (-0.2 \pm 2.5)\%$ NODE=S034A13;DTYPE=v;CLUMP=P

$A_{CP}(\tau^{\pm}\nu)$ in $D_s^+ \to \tau^+\nu_\tau$, $D_s^- \to \tau^-\overline{\nu}_\tau = (3 \pm 5)\%$ NODE=S034A30;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}K_S^0) = (0.07 \pm 0.24)\%$ NODE=S034A05;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}K_L^0)$ in $D_s^{\pm} \to K^{\pm}K_L^0 = (-1.1 \pm 2.7) \times 10^{-2}$ NODE=S034A00;DTYPE=v;CLUMP=P

$A_{CP}(K^+K^-\pi^{\pm}) = (0.35 \pm 0.34)\%$ NODE=S034A06;DTYPE=v;CLUMP=P

$A_{CP}(\phi\pi^{\pm}) = (-0.38 \pm 0.27)\%$ NODE=S034A20;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}K_S^0\pi^0) = (-0.9 \pm 1.9)\%$ NODE=S034A15;DTYPE=v;CLUMP=P

$A_{CP}(2K_S^0\pi^{\pm}) = (1.3 \pm 1.6)\%$ NODE=S034A16;DTYPE=v;CLUMP=P

$A_{CP}(K^+K^-\pi^{\pm}\pi^0) = (-0.6 \pm 0.9)\%$ NODE=S034A07;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}K_S^0\pi^+\pi^-) = (0.7 \pm 2.9)\%$ (S = 1.3) NODE=S034A14;DTYPE=v;CLUMP=P

$A_{CP}(K_S^0K^{\mp}2\pi^{\pm}) = (0.7 \pm 1.8)\%$ (S = 1.3) NODE=S034A08;DTYPE=v;CLUMP=P

$A_{CP}(\pi^+\pi^-\pi^{\pm}) = (-0.9 \pm 1.1)\%$ NODE=S034A09;DTYPE=v;CLUMP=P

$A_{CP}(\pi^{\pm}\eta) = (0.24 \pm 0.29)\%$ NODE=S034A10;DTYPE=v;CLUMP=P

$A_{CP}(\pi^{\pm}\pi^+\pi^-\eta) = (2.4 \pm 3.0)\%$ NODE=S034A48;DTYPE=v;CLUMP=P

$A_{CP}(\pi^{\pm}\eta') = (-0.08 \pm 0.17)\%$ (S = 1.2) NODE=S034A11;DTYPE=v;CLUMP=P

$A_{CP}(\eta\pi^{\pm}\pi^0) = (0.9 \pm 1.5)\%$ NODE=S034A19;DTYPE=v;CLUMP=P

$A_{CP}(\eta'\pi^{\pm}\pi^0) = (-1.5 \pm 2.5)\%$ NODE=S034A17;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}\pi^0) = (2 \pm 4)\%$ (S = 1.2) NODE=S034A01;DTYPE=v;CLUMP=P

$A_{CP}(\overline{K}^0/K^0\pi^{\pm}) = (0.4 \pm 0.5)\%$ NODE=S034A21;DTYPE=v;CLUMP=P

$A_{CP}(K_S^0\pi^{\pm}) = (0.20 \pm 0.18)\%$ NODE=S034A02;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}\pi^+\pi^-) = (2.2 \pm 1.9)\%$ NODE=S034A12;DTYPE=v;CLUMP=P

$A_{CP}(K_S^0\pi^+\pi^0)$ in $D_s^{\pm} \to K_S^0\pi^{\pm}\pi^0 = (-2 \pm 5)\%$ NODE=S034A28;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}\pi^+\pi^-\pi^0)$ in $D_s^{\pm} \to K^{\pm}\pi^+\pi^-\pi^0 = (7 \pm 5) \times 10^{-2}$ NODE=S034A39;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}\eta) = (1.8 \pm 1.9)\%$ NODE=S034A03;DTYPE=v;CLUMP=P

$A_{CP}(K^{\pm}\eta'(958)) = (6 \pm 19)\%$ NODE=S034A04;DTYPE=v;CLUMP=P

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

CLUMP=T

$A_T(K_S^0K^{\pm}\pi^+\pi^-) = (-8 \pm 6) \times 10^{-3}$ [a] NODE=S034TV0;DTYPE=t;CLUMP=T

$A_{Tviol}(K_S^0K^{\mp}\pi^{\pm}\pi^{\pm})$ in $D_s^{\pm} \to K_S^0K^{\mp}\pi^{\pm}\pi^{\pm} = (0.2 \pm 2.5) \times 10^{-3}$ NODE=S034A51;DTYPE=t;CLUMP=T

$D_s^+ \to \phi \ell^+ \nu_\ell$ form factors

CLUMP=F

$r_2 = 0.83 \pm 0.08 \quad (S = 1.8)$ NODE=S034FR2;DTYPE=f;CLUMP=F

$r_v = 1.76 \pm 0.07 \quad (S = 1.1)$ NODE=S034FRV;DTYPE=f;CLUMP=F

$\Gamma_L/\Gamma_T = 0.72 \pm 0.18$ NODE=S034GLT;DTYPE=f;CLUMP=F

$f_+(0)\,|V_{cs}|$ in $D_s^+ \to \eta e^+ \nu_e = 0.449 \pm 0.009$ NODE=S034A26;DTYPE=f;CLUMP=F

$f_+(0)\,|V_{cs}|$ in $D_s^+ \to \eta \mu^+ \nu_\mu = 0.452 \pm 0.012$ NODE=S034A42;DTYPE=f;CLUMP=F

$r_1 \equiv a_1/a_0$ in $D_s^+ \to \eta \mu^+ \nu_\mu = -2.9 \pm 0.6$ NODE=S034A44;DTYPE=f;CLUMP=F

$\langle A_{FB}^{\eta} \rangle$ in $D_s^+ \to \eta \mu^+ \nu_\mu = (-5.9 \pm 3.1) \times 10^{-2}$ NODE=S034A46;DTYPE=f;CLUMP=F

$f_+(0)\,|V_{cs}|$ in $D_s^+ \to \eta' e^+ \nu_e = 0.527 \pm 0.024$ NODE=S034A27;DTYPE=f;CLUMP=F

$r_1 \equiv a_1/a_0$ in $D_s^+ \to \eta' \mu^+ \nu_\mu = -11 \pm 5$ NODE=S034A45;DTYPE=f;CLUMP=F

$\langle A_{FB}^{\eta'} \rangle$ in $D_s^+ \to \eta' \mu^+ \nu_\mu = (-6 \pm 8) \times 10^{-2}$ NODE=S034A47;DTYPE=f;CLUMP=F

$f_+(0)\,|V_{cs}|$ in $D_s^+ \to \eta' \mu^+ \nu_\mu = 0.50 \pm 0.04$ NODE=S034A43;DTYPE=f;CLUMP=F

$f_+(0)\,|V_{cs}|$ in $D_s^+ \to f_0(980) e^+ \nu_e = 0.50 \pm 0.04$ NODE=S034A50;DTYPE=f;CLUMP=F

$f_+(0)|V_{cd}|$ in $D_s^+ \to K^0 e^+ \nu_e = 0.145 \pm 0.010$ NODE=S034A22;DTYPE=t;CLUMP=F

$r_v \equiv V(0)/A_1(0)$ in $D_s^+ \to K^*(892)^0 e^+ \nu_e = 1.7 \pm 0.4$ NODE=S034A23;DTYPE=t;CLUMP=F

$r_2 \equiv A_2(0)/A_1(0)$ in $D_s^+ \to K^*(892)^0 e^+ \nu_e = 0.77 \pm 0.29$ NODE=S034A24;DTYPE=t;CLUMP=F

$f_{D_s^+}\,|V_{cs}|$ in $D_s^+ \to \mu^+ \nu_\mu = 242.7 \pm 3.0$ MeV NODE=S034A25;DTYPE=t;CLUMP=F

$f_{D_s^+}\,|V_{cs}|$ in $D_s^+ \to \tau^+ \nu_\tau = 247.5 \pm 2.3$ MeV NODE=S034A29;DTYPE=t;CLUMP=F

Unless otherwise noted, the branching fractions for modes with a resonance in the final state include all the decay modes of the resonance. D_s^- modes are charge conjugates of the modes below. NODE=S034215;NODE=S034

D_s^+ DECAY MODES		Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)	
Inclusive modes					NODE=S034;CLUMP=D
e^+ semileptonic	[b]	(6.33 ± 0.15) %		–	DESIG=25
π^+ anything		(119.3 ± 1.4) %		–	DESIG=133
π^- anything		(43.2 ± 0.9) %		–	DESIG=134
π^0 anything		(123 ± 7) %		–	DESIG=135
K^- anything		(18.7 ± 0.5) %		–	DESIG=32
K^+ anything		(28.9 ± 0.7) %		–	DESIG=33
K_S^0 anything		(19.0 ± 1.1) %		–	DESIG=138
η anything	[c]	(29.9 ± 2.8) %		–	DESIG=2
ω anything		(6.1 ± 1.4) %		–	DESIG=136
η' anything	[d]	(10.3 ± 1.4) %	S=1.1	–	DESIG=117
$f_0(980)$ anything, $f_0 \to \pi^+\pi^-$		< 1.3 %	CL=90%	–	DESIG=137
ϕ anything		(15.7 ± 1.0) %		–	DESIG=92
K^+K^- anything		(15.8 ± 0.7) %		–	DESIG=139
$K_S^0 K^+$ anything		(5.8 ± 0.5) %		–	DESIG=140
$K_S^0 K^-$ anything		(1.9 ± 0.4) %		–	DESIG=141
$2K_S^0$ anything		(1.70 ± 0.32) %		–	DESIG=142
$2K^+$ anything		$< 2.6 \times 10^{-3}$	CL=90%	–	DESIG=143
$2K^-$ anything		$< 6 \times 10^{-4}$	CL=90%	–	DESIG=144
$2\pi^+\pi^- +$ anything		(32.8 ± 0.7) %		–	DESIG=236

Leptonic and semileptonic modes

NODE=S034;CLUMP=C

$e^+ \nu_e$		$< 8.3 \times 10^{-5}$	CL=90%	984	DESIG=118
$\mu^+ \nu_\mu$		$(5.37 \pm 0.11) \times 10^{-3}$		981	DESIG=7
$\tau^+ \nu_\tau$		(5.39 ± 0.09) %		182	DESIG=89
$\gamma e^+ \nu_e$		$< 1.3 \times 10^{-4}$	CL=90%	984	DESIG=169
$K^+ K^- e^+ \nu_e$		—		851	DESIG=125;OUR EVAL;→ UNCHECKED ←
$K^0_S K^0_S e^+ \nu_e$		$< 3.8 \times 10^{-4}$	CL=90%	849	DESIG=206
$\phi e^+ \nu_e$	[e]	(2.34 ± 0.12) %	S=1.2	720	DESIG=30
$K_1(1270)^0 e^+ \nu_e$		$< 4.1 \times 10^{-4}$	CL=90%	584	DESIG=243
$b_1(1235)^0 e^+ \nu_e,\ b^0_1 \to \omega \pi^0$		$< 6.4 \times 10^{-4}$	CL=90%	–	DESIG=244
$\phi \mu^+ \nu_\mu$		(2.24 ± 0.11) %		715	DESIG=166
$\eta e^+ \nu_e$	[e]	(2.27 ± 0.06) %		908	DESIG=86
$\eta'(958) e^+ \nu_e$	[e]	$(8.1 \pm 0.4) \times 10^{-3}$		751	DESIG=87
$\eta \mu^+ \nu_\mu$		(2.24 ± 0.07) %		905	DESIG=167
$\eta'(958) \mu^+ \nu_\mu$		$(8.0 \pm 0.6) \times 10^{-3}$		747	DESIG=168
$\omega e^+ \nu_e$	[f]	$< 2.0 \times 10^{-3}$	CL=90%	829	DESIG=153
$K^0 e^+ \nu_e$		$(2.88 \pm 0.26) \times 10^{-3}$	S=1.2	921	DESIG=145
$K^*(892)^0 e^+ \nu_e$	[e]	$(2.05 \pm 0.20) \times 10^{-3}$		782	DESIG=146
$f_0(500) e^+ \nu_e,\ f_0 \to \pi^0 \pi^0$		$< 7.3 \times 10^{-4}$	CL=90%	–	DESIG=205
$f_0(500) e^+ \nu_e,\ f_0 \to \pi^+ \pi^-$		$< 3.3 \times 10^{-4}$	CL=90%	–	DESIG=265
$f_0(980) e^+ \nu_e,\ f_0 \to \pi^0 \pi^0$		$(7.9 \pm 1.5) \times 10^{-4}$		–	DESIG=204
$f_0(980) e^+ \nu_e,\ f_0 \to \pi^+ \pi^-$		$(1.64 \pm 0.13) \times 10^{-3}$		–	DESIG=147
$f_0(980) \mu^+ \nu_\mu,\ f_0 \to K^+ K^-$		$< 5.45 \times 10^{-4}$	CL=90%	–	DESIG=246
$a_0(980)^0 e^+ \nu_e,\ a^0_0 \to \pi^0 \eta$		$< 1.2 \times 10^{-4}$	CL=90%	–	DESIG=175
$\pi^0 e^+ \nu_e$		$< 6.4 \times 10^{-5}$	CL=90%	980	DESIG=216

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

NODE=S034;CLUMP=A

$K^+ K^0_S$		(1.500 ± 0.014) %		850	DESIG=22
$K^+ K^0_L$		(1.49 ± 0.06) %		850	DESIG=170
$K^0_S K^0_L \pi^+$		(1.86 ± 0.07) %		802	DESIG=272
$\phi(1020) \pi^+,\ \phi \to K^0_L K^0_S$		(1.31 ± 0.06) %		–	DESIG=273
$K^0_L K^*(892)^+,\ K^{*+} \to K^0_S \pi^+$		$(3.59 \pm 0.32) \times 10^{-3}$		–	DESIG=274
$K^0_S K^*(892)^+,\ K^{*+} \to K^0_L \pi^+$		$(2.68 \pm 0.33) \times 10^{-3}$		–	DESIG=275
$\phi(1680) \pi^+,\ \phi \to K^0_L K^0_S$		$(6.1 \pm 2.1) \times 10^{-4}$		–	DESIG=276
$K^+ \overline{K}^0$		(2.95 ± 0.14) %		850	DESIG=164
$K^+ K^- \pi^+$	[g]	(5.45 ± 0.08) %	S=1.3	805	DESIG=40
$\phi \pi^+$	[e,h]	(4.5 ± 0.4) %		712	DESIG=6
$\phi \pi^+,\ \phi \to K^+ K^-$	[h]	(2.25 ± 0.05) %		712	DESIG=114
$K^+ \overline{K}^*(892)^0$		$(12.7 {}^{+4.0}_{-3.1})$ %		685	DESIG=232
$K^+ \overline{K}^*(892)^0,\ \overline{K}^{*0} \to K^- \pi^+$		(2.61 ± 0.05) %		416	DESIG=115
$K^+ \overline{K}^*(892)^0,\ \overline{K}^{*0} \to K^0_S \pi^0$		$(4.8 \pm 0.4) \times 10^{-3}$		–	DESIG=227
$f_0(980) \pi^+,\ f_0 \to K^+ K^-$		(1.12 ± 0.19) %		732	DESIG=79
$f_0(1370) \pi^+,\ f_0 \to K^+ K^-$		$(7.2 \pm 3.0) \times 10^{-4}$		–	DESIG=148
$f_0(1710) \pi^+,\ f_0 \to K^+ K^-$		$(6.8 \pm 2.8) \times 10^{-4}$		198	DESIG=88
$a_0(980)^+ \pi^0,\ a^+_0 \to K^+ K^0_S$		$(1.1 \pm 0.4) \times 10^{-3}$		–	DESIG=229
$a_0(1710)^+ \pi^0,\ a^+_0 \to K^+ K^0_S$		$(3.5 \pm 0.6) \times 10^{-3}$		–	DESIG=231
$K^+ \overline{K}^*_0(1430)^0,\ \overline{K}^*_0 \to K^- \pi^+$		$(1.79 \pm 0.26) \times 10^{-3}$		218	DESIG=80
$K^+ \overline{K}^*(1410)^0,\ \overline{K}^*_0 \to K^0_S \pi^0$		$(8.8 \pm 2.8) \times 10^{-4}$		–	DESIG=230
$K^+ K^0_S \pi^0$		(1.471 ± 0.028) %		805	DESIG=162
$K^*(892)^+ K^0_S,\ K^{*+} \to K^+ \pi^0$		$(2.04 \pm 0.32) \times 10^{-3}$		–	DESIG=228
$2K^0_S \pi^+$		$(7.32 \pm 0.14) \times 10^{-3}$		802	DESIG=163

$f_0(980)\pi^+$, $f_0 \to K^0_S K^0_S$		$< 1.8 \times 10^{-4}$	CL=90%	–	DESIG=212
$f_0(1710)\pi^+$, $f_0 \to K^0_S K^0_S$		$(3.39 \pm 0.31) \times 10^{-3}$		–	DESIG=210
$K^*(892)^+ K^0_S$, $K^{*+} \to K^0_S \pi^+$		$(3.19 \pm 0.29) \times 10^{-3}$		683	DESIG=211
$K^0 \overline{K}^0 \pi^+$		—		802	DESIG=46;OUR EVAL;→ UNCHECKED ←
$K^*(892)^+ \overline{K}^0$	[e]	(5.4 ± 1.2) %		683	DESIG=24
$\phi \rho^+$		(4.9 ± 0.8) %	S=3.0	401	DESIG=5
$K^+ K^- \pi^+ \pi^0$		(5.53 ± 0.15) %	S=1.3	748	DESIG=41
$\overline{K}_1(1270)^0 K^+$, $\overline{K}_1(1270)^0 \to K^- \rho^+$		$(5.7 \pm 0.6) \times 10^{-3}$		–	DESIG=177
$\overline{K}_1(1270)^0 K^+$, $\overline{K}_1(1270)^0 \to K^*(892)\pi$		(1.31 ± 0.25) %		–	DESIG=176
$\overline{K}_1(1400)^0 K^+$, $\overline{K}_1(1400)^0 \to K^*(892)\pi$		(2.0 ± 0.4) %		–	DESIG=178
$a_0(980)^0 \rho^+$, $a^0_0 \to K^+ K^-$		$(1.9 \pm 0.4) \times 10^{-3}$		–	DESIG=179
$f_1(1420)^0 \pi^+$, $f_1(1420)^0 \to K^*(892)^\mp K^\pm$		$(3.9 \pm 0.7) \times 10^{-3}$		–	DESIG=180
$f_1(1420)^0 \pi^+$, $f^0_1 \to a_0(980)^0 \pi^0$, $a^0_0 \to K^+ K^-$		$(4.0 \pm 1.4) \times 10^{-4}$		–	DESIG=181
$\eta(1475)\pi^+$, $\eta \to a_0(980)^0 \pi^0$, $a^0_0 \to K^+ K^-$		$(7.0 \pm 2.8) \times 10^{-4}$		–	DESIG=182
$K^0_S K^- 2\pi^+$		(1.569 ± 0.028) %		744	DESIG=26
$K^+ K^- K^0_S \pi^+$		$(1.27 \pm 0.15) \times 10^{-4}$		527	DESIG=245
$K^*(892)^+ \overline{K}^*(892)^0$	[e]	(5.64 ± 0.35) %		416	DESIG=27
$\eta(1475) K^0_S$, $\eta \to K^*(892)^0 \pi^+$, $K^{*0} \to K^- \pi^+$		$(3.5 \pm 1.0) \times 10^{-4}$		–	DESIG=199
$\eta(1475)\pi^+$, $\eta \to \overline{K}^*(892)^+ K^-$, $\overline{K}^{*+} \to K^0_S \pi^+$		$(3.5 \pm 1.0) \times 10^{-4}$		–	DESIG=200
$\eta(1475)\pi^+$, $\eta \to a_0(980)^- \pi^+$, $a^-_0 \to K^0_S K^-$		$(1.7 \pm 0.9) \times 10^{-3}$		–	DESIG=196
$f_1(1285)\pi^+$, $f_1 \to a_0(980)^- \pi^+$, $a^-_0 \to K^0_S K^-$		$(3.5 \pm 0.8) \times 10^{-4}$		–	DESIG=202
$K^+ K^0_S \pi^+ \pi^-$		$(9.34 \pm 0.22) \times 10^{-3}$		744	DESIG=43
$K^+ K^- 2\pi^+ \pi^-$		$(6.6 \pm 0.6) \times 10^{-3}$		673	DESIG=42
$\phi 2\pi^+ \pi^-$	[e]	(1.21 ± 0.16) %		640	DESIG=8
$\phi \rho^0 \pi^+$, $\phi \to K^+ K^-$		$(4.9 \pm 0.7) \times 10^{-3}$		181	DESIG=105
$\phi a_1(1260)^+$, $\phi \to K^+ K^-$, $a^+_1 \to \rho^0 \pi^+$		$(7.5 \pm 1.2) \times 10^{-3}$		†	DESIG=106
$\phi 2\pi^+ \pi^-$ non-ρ, $\phi \to K^+ K^-$		$(1.4 \pm 0.5) \times 10^{-3}$		–	DESIG=174
$K^+ K^- \rho^0 \pi^+$ non-ϕ		$< 2.0 \times 10^{-4}$	CL=90%	249	DESIG=104
$K^+ K^- 2\pi^+ \pi^-$ nonresonant		$(1.0 \pm 0.4) \times 10^{-3}$		673	DESIG=107
$2K^0_S 2\pi^+ \pi^-$		$(8.0 \pm 3.3) \times 10^{-4}$		669	DESIG=112

Hadronic modes without K's

NODE=S034;CLUMP=B

$\pi^+\pi^0$		$< 1.2 \times 10^{-4}$	CL=90%	975	DESIG=119
$2\pi^+\pi^-$		(1.090 ± 0.014) %		959	DESIG=15
$\rho^0\pi^+$		$(1.14 \pm 0.16) \times 10^{-4}$		825	DESIG=10
$\omega\pi^+$, $\omega \to \pi^+\pi^-$		$(3.9 \pm 0.4) \times 10^{-5}$		–	DESIG=233
$\pi^+(\pi^+\pi^-)_{S-\text{wave}}$	[i]	$(9.23 \pm 0.13) \times 10^{-3}$		959	DESIG=113
$f_2(1270)\pi^+$, $f_2 \to \pi^+\pi^-$		$(1.42 \pm 0.10) \times 10^{-3}$		559	DESIG=90
$f'_2(1525)^0\pi^+$, $f'_2 \to \pi^+\pi^-$		$(5.8 \pm 2.0) \times 10^{-6}$		–	DESIG=235
$\rho(1450)^0\pi^+$, $\rho^0 \to \pi^+\pi^-$		$(1.8 \pm 0.6) \times 10^{-4}$		421	DESIG=103
$\rho(1700)^0\pi^+$, $\rho^0 \to \pi^+\pi^-$		$(4 \pm 4) \times 10^{-5}$		–	DESIG=234
$\pi^+ 2\pi^0$		$(5.2 \pm 0.5) \times 10^{-3}$	S=1.1	961	DESIG=149
$f_0(980)\pi^+$, $f_0 \to \pi^0\pi^0$		$(2.9 \pm 0.6) \times 10^{-3}$		–	DESIG=213
$f_0(1370)\pi^+$, $f_0 \to \pi^0\pi^0$		$(1.3 \pm 0.6) \times 10^{-3}$		–	DESIG=214
$f_2(1270)\pi^+$, $f_2 \to \pi^0\pi^0$		$(5.0 \pm 3.5) \times 10^{-4}$		–	DESIG=215
$2\pi^+\pi^-\pi^0$		—		935	DESIG=18;OUR EVAL;→ UNCHECKED ←
$\omega\pi^+$	[e]	$(1.93 \pm 0.30) \times 10^{-3}$		822	DESIG=19
$\eta\pi^+$	[e]	(1.686 ± 0.027) %		902	DESIG=1
$(2\pi^+\pi^-\pi^0)_{\text{non}-\eta}$		(2.04 ± 0.09) %		–	DESIG=253
$f_0(1370)\rho^+$, $f_0\rho^+ \to 2\pi^+\pi^-\pi^0$		$(5.1 \pm 0.9) \times 10^{-3}$		–	DESIG=254
$f_0(980)^0\rho^+$, $f_0^0\rho^+ \to 2\pi^+\pi^-\pi^0$		$(2.6 \pm 0.5) \times 10^{-3}$		–	DESIG=255
$f_2(1270)^0\rho^+$, $f_2(1270)^0\rho^+ \to 2\pi^+\pi^-\pi^0$		$(1.9 \pm 0.4) \times 10^{-3}$		–	DESIG=256
$(\rho^+\rho^0)_{S-wave} \to 2\pi^+\pi^-\pi^0$		$(7.1 \pm 2.8) \times 10^{-4}$		–	DESIG=257
$(\rho(1450)^+\rho^0)_{S-wave} \to 2\pi^+\pi^-\pi^0$		$(9.4 \pm 3.1) \times 10^{-4}$		–	DESIG=258
$(\rho^+\rho(1450)^0)_{P-wave} \to 2\pi^+\pi^-\pi^0$		$(1.75 \pm 0.29) \times 10^{-3}$		–	DESIG=259
$\phi\pi^+$, $\phi \to \rho\pi$		$(5.08 \pm 0.35) \times 10^{-3}$		–	DESIG=260
$\omega\pi^+$, $\omega \to \rho\pi$		$(1.41 \pm 0.19) \times 10^{-3}$		–	DESIG=261
$a_1(1260)^+\pi^0$, $a_1^+ \to (\rho^0\pi^+)_{S-wave}$		$(2.6 \pm 0.4) \times 10^{-3}$		–	DESIG=262
$a_1(1260)^0\pi^+$, $a_1^0 \to (\rho\pi)_{S-wave}$		$(1.3 \pm 0.5) \times 10^{-3}$		–	DESIG=263
$\pi(1300)^0\pi^+$, $\pi^0 \to (\rho\pi)_{P-wave}$		$(2.4 \pm 0.7) \times 10^{-3}$		–	DESIG=264
$3\pi^+ 2\pi^-$		$(8.0 \pm 0.8) \times 10^{-3}$		899	DESIG=17
$2\pi^+\pi^- 2\pi^0$		(4.41 ± 0.20) %		902	DESIG=57
$\omega\rho^+$, $\omega \to \pi^+\pi^-\pi^0$		$(8.8 \pm 0.9) \times 10^{-3}$		602	DESIG=277
$\phi\rho^+$, $\phi \to \pi^+\pi^-\pi^0$		$(6.1 \pm 0.6) \times 10^{-3}$		–	DESIG=296
$\rho(1450)^+\pi^0$, $\rho(1450)^+ \to \omega\pi^+$, $\omega \to \pi^+\pi^-\pi^0$		$(3.5 \pm 0.5) \times 10^{-3}$		–	DESIG=283
$a_1(1260)^0\rho^+$, $a_1(1260)^0 \to \rho^+\pi^-$		$(5.0 \pm 0.4) \times 10^{-3}$		–	DESIG=287
$a_1(1260)^0\rho^+$, $a_1(1260)^0 \to \rho^-\pi^+$		$(3.26 \pm 0.27) \times 10^{-3}$		–	DESIG=284
$a_1(1260)^+\rho^0$, $a_1(1260)^+ \to \rho^+\pi^0$		$(7.3 \pm 1.0) \times 10^{-3}$		–	DESIG=290
$b_1(1235)^+\pi^0$, $b_1(1235)^+ \to \omega\pi^+$, $\omega \to \pi^+\pi^-\pi^0$		$(4.8 \pm 0.6) \times 10^{-3}$		–	DESIG=294
$b_1(1235)^0\pi^+$, $b_1(1235)^0 \to \omega\pi^0$, $\omega \to \pi^+\pi^-\pi^0$		$(6.4 \pm 0.6) \times 10^{-3}$		–	DESIG=295
$\eta\rho^+$	[e]	(8.9 ± 0.8) %		724	DESIG=58
$\eta\pi^+\pi^0$		(9.10 ± 0.17) %		885	DESIG=160
$\eta(\pi^+\pi^0)_{P-wave}$		$(4.9 \pm 3.0) \times 10^{-3}$		885	DESIG=172
$a_0(980)^{+0}\pi^{0+}$, $a_0(980)^{+0} \to \eta\pi^{+0}$		(2.1 ± 0.4) %		–	DESIG=173

$\omega\pi^+\pi^0$	[e]	(2.8 ± 0.7) %		802	DESIG=126
$2\pi^+\pi^-\eta$		(3.08 ± 0.08) %		855	DESIG=183
$a_1(1260)^+\eta$, $a_1^+ \to \rho(770)^0\pi^+$, $\rho^0 \to \pi^+\pi^-$		(1.71 ± 0.14) %		–	DESIG=184
$a_1(1260)^+\eta$, $a_1^+ \to f_0(500)\pi^+$, $f_0 \to \pi^+\pi^-$		$(2.5 \pm 0.9) \times 10^{-3}$		–	DESIG=185
$a_0(980)^+\rho(770)^0$, $a_0^+ \to \eta\pi^+$		$(2.1 \pm 0.9) \times 10^{-3}$		–	DESIG=186
$\eta(1405)\pi^+$, $\eta \to a_0(980)^-\pi^+$, $a_0^- \to \eta\pi^-$		$(2.2 \pm 0.7) \times 10^{-4}$		–	DESIG=187
$\eta(1405)\pi^+$, $\eta \to a_0(980)^+\pi^-$, $a_0^+ \to \eta\pi^+$		$(2.2 \pm 0.7) \times 10^{-4}$		–	DESIG=188
$f_1(1420)\pi^+$, $f_1 \to a_0(980)^-\pi^+$, $a_0^- \to \eta\pi^-$		$(5.9 \pm 1.8) \times 10^{-4}$		–	DESIG=195
$f_1(1420)\pi^+$, $f_1 \to a_0(980)^+\pi^-$, $a_0^+ \to \eta\pi^+$		$(5.2 \pm 1.8) \times 10^{-4}$		–	DESIG=190
$3\pi^+2\pi^-\pi^0$		(4.9 ± 3.2) %		856	DESIG=59
$\omega 2\pi^+\pi^-$	[e]	(1.6 ± 0.5) %		766	DESIG=127
$\eta'(958)\pi^+$	[d,e]	(3.95 ± 0.08) %		743	DESIG=13
$3\pi^+2\pi^-2\pi^0$		—		803	DESIG=61;OUR EVAL;→ UNCHECKED ←
$\omega\eta\pi^+$	[e]	$(5.4 \pm 1.3) \times 10^{-3}$		654	DESIG=128
$\eta'(958)\rho^+$	[d,e]	(5.8 ± 1.5) %		465	DESIG=62
$\eta'(958)\pi^+\pi^0$		(6.14 ± 0.18) %		720	DESIG=161
$\eta'(958)\pi^+\pi^0$ nonresonant		< 5.1 %	CL=90%	720	DESIG=165
Modes with one or three K's					NODE=S034;CLUMP=K
$K^+\pi^0$		$(7.5 \pm 0.5) \times 10^{-4}$		917	DESIG=120
$K_S^0\pi^+$		$(1.22 \pm 0.04) \times 10^{-3}$		916	DESIG=23
$K^+\eta$	[e]	$(1.76 \pm 0.08) \times 10^{-3}$		835	DESIG=121
$K^+\omega$	[e]	$(9.9 \pm 1.5) \times 10^{-4}$		741	DESIG=129
$K^+\eta'(958)$	[e]	$(2.68 \pm 0.24) \times 10^{-3}$		646	DESIG=122
$K^+\pi^+\pi^-$		$(6.23 \pm 0.10) \times 10^{-3}$		900	DESIG=45
$K^+\rho^0$		$(2.18 \pm 0.25) \times 10^{-3}$		745	DESIG=82
$K^+\rho(1450)^0$, $\rho^0 \to \pi^+\pi^-$		$(7.3 \pm 1.7) \times 10^{-4}$		–	DESIG=108
$K^+f_0(500)$, $f_0 \to \pi^+\pi^-$		$(4.5 \pm 3.0) \times 10^{-4}$		–	DESIG=207
$K^+f_0(980)$, $f_0 \to \pi^+\pi^-$		$(2.8 \pm 1.1) \times 10^{-4}$		–	DESIG=209
$K^+f_0(1370)$, $f_0 \to \pi^+\pi^-$		$(1.2 \pm 0.6) \times 10^{-3}$		–	DESIG=208
$K^*(892)^0\pi^+$, $K^{*0} \to K^+\pi^-$		$(1.68 \pm 0.26) \times 10^{-3}$		775	DESIG=83
$K^*(1410)^0\pi^+$, $K^{*0} \to K^+\pi^-$		$(6 \pm 4) \times 10^{-4}$		–	DESIG=109
$K^*(1430)^0\pi^+$, $K^{*0} \to K^+\pi^-$		$(9.4 \pm 3.2) \times 10^{-4}$		–	DESIG=110
$K^+\pi^+\pi^-$ nonresonant		$(9.9 \pm 3.2) \times 10^{-4}$		900	DESIG=111
$K_S^0\pi^+\pi^0$		$(5.09 \pm 0.22) \times 10^{-3}$		899	DESIG=242
$K_S^0\rho(770)^+$, $\rho^+ \to \pi^+\pi^0$		$(2.6 \pm 0.4) \times 10^{-3}$		–	DESIG=237
$K_S^0\rho(1450)^+$, $\rho^+ \to \pi^+\pi^0$		$(1.04 \pm 0.32) \times 10^{-3}$		–	DESIG=238
$K^*(892)^0\pi^+$, $K^{*0} \to K_S^0\pi^0$		$(4.3 \pm 1.2) \times 10^{-4}$		–	DESIG=239
$K^*(892)^+\pi^0$, $K^{*+} \to K_S^0\pi^+$		$(2.3 \pm 0.7) \times 10^{-4}$		–	DESIG=240
$K^*(1410)^0\pi^+$, $K^{*0} \to K_S^0\pi^0$		$(1.7 \pm 0.9) \times 10^{-4}$		–	DESIG=241

$K^0_S 2\pi^+\pi^-$		$(2.8 \pm 1.0) \times 10^{-3}$		870	DESIG=123
$K^+\pi^+\pi^-\pi^0$		$(9.7 \pm 0.6) \times 10^{-3}$		873	DESIG=217
$K^*(892)^0\rho^+$, $K^{*0} \to K^+\pi^-$		$(3.9 \pm 0.4) \times 10^{-3}$		–	DESIG=218
$K^*(892)^+\rho^0$, $K^{*+} \to K^+\pi^0$		$(4.2 \pm 1.2) \times 10^{-4}$		–	DESIG=219
$K_1(1270)^0\pi^+$, $K_1^0 \to K^+\rho^-$		$(3.9 \pm 1.3) \times 10^{-4}$		†	DESIG=220
$K_1(1400)^0\pi^+$, $K_1^0 \to K^*(890)^+\pi^-$, $K^{*+} \to K^+\pi^0$		$(5.4 \pm 0.9) \times 10^{-4}$		–	DESIG=221
$K_1(1400)^0\pi^+$, $K_1^0 \to K^*(890)^0\pi^0$, $K^{*0} \to K^+\pi^-$		$(5.9 \pm 1.0) \times 10^{-4}$		–	DESIG=222
$K^+ a_1(1260)^0$, $a_1 \to \rho^+\pi^-$		$(1.8 \pm 1.1) \times 10^{-4}$		–	DESIG=223
$K^+ a_1(1260)^0$, $a_1 \to \rho^-\pi^+$		$(1.8 \pm 1.1) \times 10^{-4}$		–	DESIG=224
$K^+\pi^+\pi^-\pi^0$ nonresonant		$(9.2 \pm 2.4) \times 10^{-4}$		873	DESIG=225
$(K^+\pi^0)_{P-wave}\rho^0$		$(1.01 \pm 0.21) \times 10^{-3}$		688	DESIG=226
$K^+\omega\pi^0$	[e]	$< 8.2 \times 10^{-3}$	CL=90%	684	DESIG=130
$K^+\omega\pi^+\pi^-$	[e]	$< 5.4 \times 10^{-3}$	CL=90%	603	DESIG=131
$K^+\omega\eta$	[e]	$< 7.9 \times 10^{-3}$	CL=90%	366	DESIG=132
$2K^+K^-$		$(2.18 \pm 0.20) \times 10^{-4}$		628	DESIG=67
ϕK^+, $\phi \to K^+K^-$		$(8.9 \pm 2.0) \times 10^{-5}$		–	DESIG=154
Radiative decays					NODE=S034;CLUMP=H
$\rho(770)^+\gamma$		$< 6.1 \times 10^{-4}$	CL=90%	–	DESIG=252
Doubly Cabibbo-suppressed modes					NODE=S034;CLUMP=F
$2K^+\pi^-$		$(1.293 \pm 0.027) \times 10^{-4}$	S=1.1	805	DESIG=116
$K^+K^*(892)^0$, $K^{*0} \to K^+\pi^-$		$(6.1 \pm 3.4) \times 10^{-5}$		–	DESIG=155
$2K^+\pi^-\pi^0$		$< 1.7 \times 10^{-4}$	CL=90%	748	DESIG=247
Baryon-antibaryon mode					NODE=S034;CLUMP=G
$p\overline{n}$		$(1.22 \pm 0.11) \times 10^{-3}$		295	DESIG=124
$p\overline{p}e^+\nu_e$		$< 2.0 \times 10^{-4}$	CL=90%	296	DESIG=171
$\Delta C = 1$ weak neutral current ($C1$) modes, Lepton family number (LF), or Lepton number (L) violating modes					NODE=S034;CLUMP=E
$\pi^+e^+e^-$	[j]	$< 5.5 \times 10^{-6}$	CL=90%	979	DESIG=93
$\pi^+\phi$, $\phi \to e^+e^-$	[k]	$(1.17 \pm 0.22) \times 10^{-5}$		–	DESIG=152
$\pi^+\pi^0e^+e^-$		$< 7.0 \times 10^{-5}$	CL=90%	974	DESIG=249
$\rho^+\phi$, $\phi \to e^+e^-$		$(2.4 \pm 0.7) \times 10^{-5}$		–	DESIG=248
$\pi^+\mu^+\mu^-$	[j]	$< 1.8 \times 10^{-7}$	CL=90%	968	DESIG=73
$K^+e^+e^-$	C1	$< 3.7 \times 10^{-6}$	CL=90%	922	DESIG=94
$K^+\pi^0e^+e^-$		$< 7.1 \times 10^{-5}$	CL=90%	917	DESIG=250
$K^0_S\pi^+e^+e^-$		$< 8.1 \times 10^{-5}$	CL=90%	916	DESIG=251
$K^+\mu^+\mu^-$	C1	$< 1.4 \times 10^{-7}$	CL=90%	909	DESIG=74
$K^*(892)^+\mu^+\mu^-$	C1	$< 1.4 \times 10^{-3}$	CL=90%	765	DESIG=75
$\pi^+e^+\mu^-$	LF	$< 1.1 \times 10^{-6}$	CL=90%	976	DESIG=156
$\pi^+e^-\mu^+$	LF	$< 9.4 \times 10^{-7}$	CL=90%	976	DESIG=157
$K^+e^+\mu^-$	LF	$< 7.9 \times 10^{-7}$	CL=90%	919	DESIG=158
$K^+e^-\mu^+$	LF	$< 5.6 \times 10^{-7}$	CL=90%	919	DESIG=159
π^-2e^+	L	$< 1.4 \times 10^{-6}$	CL=90%	979	DESIG=97
$\pi^-2\mu^+$	L	$< 8.6 \times 10^{-8}$	CL=90%	968	DESIG=76
$\pi^-e^+\mu^+$	L	$< 6.3 \times 10^{-7}$	CL=90%	976	DESIG=98
K^-2e^+	L	$< 7.7 \times 10^{-7}$	CL=90%	922	DESIG=99
$\pi^-\pi^0e^+e^+$		$< 2.9 \times 10^{-5}$	CL=90%	974	DESIG=266

$K^- \pi^0 e^+ e^+$		$<$	3.4	$\times 10^{-5}$ CL=90%	917	DESIG=267
$K^0_S \pi^- e^+ e^+$		$<$	1.3	$\times 10^{-5}$ CL=90%	916	DESIG=268
$K^0_S K^- e^+ e^+$		$<$	2.9	$\times 10^{-5}$ CL=90%	850	DESIG=269
$\phi \pi^- e^+ e^+$		$<$	6.9	$\times 10^{-5}$ CL=90%	711	DESIG=270
$\phi K^- e^+ e^+$		$<$	9.9	$\times 10^{-5}$ CL=90%	606	DESIG=271
$K^- 2\mu^+$	L	$<$	2.6	$\times 10^{-8}$ CL=90%	909	DESIG=77
$K^- e^+ \mu^+$	L	$<$	2.6	$\times 10^{-7}$ CL=90%	919	DESIG=100
$K^*(892)^- 2\mu^+$	L	$<$	1.4	$\times 10^{-3}$ CL=90%	765	DESIG=78

$D_s^{*\pm}$

$I(J^P) = 0(1^-)$

NODE=S074

Mass $m = 2112.2 \pm 0.4$ MeV NODE=S074M;DTYPE=M

$m_{D_s^{*\pm}} - m_{D_s^\pm} = 143.8 \pm 0.4$ MeV NODE=S074DM;DTYPE=D

Full width $\Gamma < 1.9$ MeV, CL = 90% NODE=S074W;DTYPE=G

D_s^{*-} modes are charge conjugates of the modes below. NODE=S074215;NODE=S074

D_s^{*+} DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)	
$D_s^+ \gamma$	(93.6 ± 0.4) %	139	DESIG=1
$D_s^+ \pi^0$	(5.77 ± 0.35) %	48	DESIG=2
$D_s^+ e^+ e^-$	$(6.7 \pm 1.6) \times 10^{-3}$	139	DESIG=3
$e^+ \nu_e$	$(2.1\ ^{+1.2}_{-0.9}) \times 10^{-5}$	1056	DESIG=4

$D_{s0}^*(2317)^\pm$

$I(J^P) = 0(0^+)$
J, P need confirmation.

NODE=M172

J^P is natural, low mass consistent with 0^+.

See the review on "Heavy Non-$q\overline{q}$ Mesons."

Mass $m = 2317.8 \pm 0.5$ MeV NODE=M172M;DTYPE=M

$m_{D_{s0}^*(2317)^\pm} - m_{D_s^\pm} = 349.4 \pm 0.5$ MeV NODE=M172DM;DTYPE=D

Full width $\Gamma < 3.8$ MeV, CL = 95% NODE=M172W;DTYPE=G

$D_{s0}^*(2317)^-$ modes are charge conjugates of modes below. NODE=M172215;NODE=M172

$D_{s0}^*(2317)^\pm$ DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)	
$D_s^+ \pi^0$	$(100\ ^{+\ 0}_{-20})$ %		298	DESIG=1
$D_s^+ \gamma$	$<$ 5 %	90%	323	DESIG=2
$D_s^*(2112)^+ \gamma$	$<$ 6 %	90%	–	DESIG=3
$D_s^+ \gamma\gamma$	$<$ 18 %	95%	323	DESIG=4
$D_s^*(2112)^+ \pi^0$	$<$ 11 %	90%	–	DESIG=5
$D_s^+ \pi^+ \pi^-$	$< 4 \times 10^{-3}$	90%	194	DESIG=6
$D_s^+ \pi^0 \pi^0$	not seen		205	DESIG=7;OUR EVAL;→ UNCHECKED ←

$D_{s1}(2460)^\pm$

$I(J^P) = 0(1^+)$

NODE=M173

See the review on "Heavy Non-$q\overline{q}$ Mesons."

Mass $m = 2459.5 \pm 0.6$ MeV (S = 1.1) NODE=M173M;DTYPE=M

$m_{D_{s1}(2460)^\pm} - m_{D_s^{*\pm}} = 347.3 \pm 0.7$ MeV (S = 1.2) NODE=M173MD;DTYPE=D

$m_{D_{s1}(2460)^\pm} - m_{D_s^\pm} = 491.1 \pm 0.6$ MeV (S = 1.1) NODE=M173DM;DTYPE=D

Full width $\Gamma < 3.5$ MeV, CL = 95% NODE=M173W;DTYPE=G

$D_{s1}(2460)^-$ modes are charge conjugates of the modes below. NODE=M173215;NODE=M173

$D_{s1}(2460)^+$ DECAY MODES	Fraction (Γ_i/Γ)	Scale factor/ Confidence level	p (MeV/c)	
$D_s^{*+}\pi^0$	(48 ± 11) %		297	DESIG=1
$D_s^+\gamma$	(18 ± 4) %		442	DESIG=2
$D_s^+\pi^+\pi^-$	(4.3 ± 1.3) %	S=1.1	363	DESIG=3
$D_s^{*+}\gamma$	< 8 %	CL=90%	323	DESIG=4
$D_{s0}^*(2317)^+\gamma$	$(3.7^{+5.0}_{-2.4})$ %		138	DESIG=5

$D_{s1}(2536)^\pm$

$I(J^P) = 0(1^+)$
J, P need confirmation. NODE=M121

Mass $m = 2535.12 \pm 0.06$ MeV NODE=M121M;DTYPE=M
$m_{D_{s1}(2536)^\pm} - m_{D_s^*(2111)} = 422.9 \pm 0.4$ MeV NODE=M121DM;DTYPE=D
$m_{D_{s1}(2536)^\pm} - m_{D^*(2010)^\pm} = 524.85 \pm 0.04$ MeV NODE=M121DN;DTYPE=D
$m_{D_{s1}(2536)^\pm} - m_{D^*(2007)^0} = 528.26 \pm 0.05$ MeV (S = 1.1) NODE=M121DP;DTYPE=D
Full width $\Gamma = 0.92 \pm 0.05$ MeV NODE=M121W;DTYPE=G

Branching fractions are given relative to the one **DEFINED AS 1**.
$D_{s1}(2536)^-$ modes are charge conjugates of the modes below. NODE=M121215;NODE=M121

$D_{s1}(2536)^+$ DECAY MODES	Fraction (Γ_i/Γ)	Confidence level	p (MeV/c)	
$D^*(2010)^+K^0$	(31 ± 7) %		149	DESIG=1
$(D^*(2010)^+K^0)_{S-wave}$	(22 ± 5) %		149	DESIG=7
$K_S^0 D^*(2010)^+$	(17 ± 4) %		149	DESIG=10
$D^+\pi^-K^+$	$(10.0 \pm 2.5) \times 10^{-3}$		176	DESIG=8
$D^*(2007)^0K^+$	(36 ± 6) %		167	DESIG=4
D^+K^0	< 12 %	90%	381	DESIG=2
D^0K^+	< 4 %	90%	391	DESIG=5
$D_s^{*+}\gamma$	possibly seen		388	DESIG=3
$D_s^+\pi^+\pi^-$	seen		437	DESIG=6

$D_{s2}^*(2573)$

$I(J^P) = 0(2^+)$ NODE=M148

Mass $m = 2569.1 \pm 0.8$ MeV (S = 2.4) NODE=M148M;DTYPE=M
$m_{D_{s2}^*(2573)} - m_{D^0} = 704 \pm 3.2$ MeV NODE=M148DM;DTYPE=D
Full width $\Gamma = 16.9 \pm 0.7$ MeV NODE=M148W;DTYPE=G

$D_{s2}^*(2573)^-$ modes are charge conjugates of the modes below. NODE=M148215;NODE=M148

$D_{s2}^*(2573)^+$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)	
D^0K^+	(37 ± 6) %	431	DESIG=1
$D^*(2007)^0K^+$	not seen	238	DESIG=2;OUR EVAL;→ UNCHECKED ←
$D^+K_S^0$	seen	422	DESIG=4;OUR EVAL;→ UNCHECKED ←
$D^{*+}K_S^0$	seen	225	DESIG=5;OUR EVAL;→ UNCHECKED ←

$D_{s1}^*(2700)^\pm$

$I(J^P) = 0(1^-)$ NODE=M182

Mass $m = 2714 \pm 5$ MeV (S = 1.5) NODE=M182M;DTYPE=M
Full width $\Gamma = 122 \pm 10$ MeV NODE=M182W;DTYPE=G

$D^*_{s1}(2700)^\pm$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)	
$D^0 K^+$	seen	579	NODE=M182215;DESIG=1;OUR EVAL; → UNCHECKED ←
$D^+ K^0_S$	seen	573	DESIG=3;OUR EVAL;→ UNCHECKED ←
$D^{*0} K^+$	seen	438	DESIG=5;OUR EVAL;→ UNCHECKED ←
$D^{*+} K^0_S$	seen	431	DESIG=6;OUR EVAL;→ UNCHECKED ←

$D^*_{s3}(2860)^\pm$

$I(J^P) = 0(3^-)$

NODE=M226

Mass $m = 2860 \pm 7$ MeV NODE=M226M;DTYPE=M

Full width $\Gamma = 53 \pm 10$ MeV NODE=M226W;DTYPE=G

$D^*_{s3}(2860)^\pm$ DECAY MODES	Fraction (Γ_i/Γ)	p (MeV/c)	
$D^0 K^+$	seen	710	NODE=M226215;DESIG=2;OUR EVAL; → UNCHECKED ←
$D^+ K^0_S$	seen	704	DESIG=3;OUR EVAL;→ UNCHECKED ←
$D^{*0} K^+$	seen	589	DESIG=5;OUR EVAL;→ UNCHECKED ←
$D^{*+} K^0_S$	seen	584	DESIG=6;OUR EVAL;→ UNCHECKED ←

NOTES

[*a*] See the Particle Listings for the (complicated) definition of this quantity. LINKAGE=DEF

[*b*] This is the purely e^+ semileptonic branching fraction: the e^+ fraction from τ^+ decays has been subtracted off. The sum of our (non-τ) e^+ exclusive fractions — an $e^+ \nu_e$ with an η, η', ϕ, K^0, or K^{*0} — is 5.99 ± 0.31 %. LINKAGE=SLE

[*c*] This fraction includes η from η' decays. LINKAGE=EFR

[*d*] The sum of our exclusive η' fractions — $\eta' e^+ \nu_e$, $\eta' \mu^+ \nu_\mu$, $\eta' \pi^+$, $\eta' \rho^+$, and $\eta' K^+$ — is 11.8 ± 1.6%. LINKAGE=INC

[*e*] This branching fraction includes all the decay modes of the final-state resonance. LINKAGE=DFR

[*f*] A test for $u\overline{u}$ or $d\overline{d}$ content in the D_s^+. Neither Cabibbo-favored nor Cabibbo-suppressed decays can contribute, and $\omega-\phi$ mixing is an unlikely explanation for any fraction above about 2×10^{-4}. LINKAGE=MAR

[*g*] 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. LINKAGE=SDQ

[*h*] We decouple the $D_s^+ \to \phi\pi^+$ branching fraction obtained from mass projections (and used to get some of the other branching fractions) from the $D_s^+ \to \phi\pi^+$, $\phi \to K^+ K^-$ branching fraction obtained from the Dalitz-plot analysis of $D_s^+ \to K^+ K^- \pi^+$. That is, the ratio of these two branching fractions is not exactly the $\phi \to K^+ K^-$ branching fraction 0.491. LINKAGE=DBF

[*i*] This is the average of a model-independent and a K-matrix parametrization of the $\pi^+\pi^-$ S-wave and is a sum over several f_0 mesons. LINKAGE=KMP

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

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