

6-Fermion Flavor Sums and Gluon Propagators

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Still Trying to Find the Best Set of Flavor Sums for 6-Fermion SM Event Generation

	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34929/whizard.vvuyyu_o.out:	12	3000000	1.6243711E+01	1.70E-01	1.04	18.10	0.08	0.00	1
whiz34930/whizard.vvubyu_o.out:	12	3000000	3.4678473E-04	1.19E-06	0.34	5.93*	0.12	0.00	1
whiz34931/whizard.vvuybu_o.out:	12	3000000	3.4225041E-04	5.24E-06	1.53	26.51	0.02	0.00	1
whiz34932/whizard.vvubbu_o.out:	12	3000000	2.8813555E+00	6.87E-01	23.85	413.01	0.01	0.00	1
whiz34933/whizard.vvcyyu_o.out:	12	3000000	1.1660966E+01	1.82E-02	0.16	2.71*	0.53	0.00	1
whiz34934/whizard.vvcbyu_o.out:	12	3000000	2.0797920E-02	2.81E-05	0.13	2.34*	0.79	0.00	1
whiz34935/whizard.vvcybu_o.out:	12	3000000	2.6818157E-04	4.29E-07	0.16	2.77*	0.46	0.00	1
whiz34936/whizard.vvcbbu_o.out:	12	3000000	4.8468794E-07	1.54E-09	0.32	5.51	0.16	0.00	1
whiz34937/whizard.vvuyyc_o.out:	12	3000000	1.1679898E+01	1.72E-02	0.15	2.54	0.52	0.00	1
whiz34938/whizard.vvubyc_o.out:	12	3000000	2.6924123E-04	5.08E-07	0.19	3.27	0.20	0.00	1
whiz34939/whizard.vvuybc_o.out:	12	3000000	2.0820183E-02	3.01E-05	0.14	2.50	0.54	0.00	1
whiz34940/whizard.vvubbc_o.out:	12	3000000	4.8148763E-07	1.97E-09	0.41	7.10	0.07	0.00	1
whiz34941/whizard.vvcyyc_o.out:	12	3000000	1.6332993E+01	2.86E-01	1.75	30.37	0.04	0.00	1
whiz34942/whizard.vvcbyc_o.out:	12	3000000	2.0905834E-02	3.41E-05	0.16	2.83	0.46	0.00	1
whiz34943/whizard.vvcybc_o.out:	12	3000000	2.0852567E-02	3.45E-05	0.17	2.86	0.41	0.00	1
whiz34944/whizard.vvcbbc_o.out:	12	3000000	2.2156537E+00	5.55E-02	2.50	43.37	0.03	0.00	1

Gluon Propagator is Switched on by Default and Causes Problem for Integral Convergence in Some Cases

$$e^+ e^- \rightarrow \nu_e \bar{\nu}_e qqqq \quad \sqrt{s} = 3 \text{ TeV} \quad 0 \text{ Pol.}$$

$$\alpha_s = 0.12$$

	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34953/whizard.n1n1uddu_o.out:	12	1500000	1.2056526E+01	6.43E-02	0.53	6.53	0.19	0.00	1
whiz34954/whizard.n1n1ubbu_o.out:	12	1500000	2.0732666E+00	3.48E-02	1.68	20.54	0.04	0.00	1
whiz34955/whizard.n1n1cddc_o.out:	12	1500000	2.5707647E+00	2.58E-01	10.04	122.99	0.04	0.00	1
whiz34956/whizard.n1n1cbbc_o.out:	12	1500000	2.1214099E+00	1.14E-01	5.35	65.54	0.08	0.00	1

$$\alpha_s = 0$$

	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34961/whizard.n1n1uddu_o.out:	12	1500000	1.1874202E+01	2.59E-02	0.22	2.67*	0.67	0.00	1
whiz34962/whizard.n1n1ubbu_o.out:	12	1500000	1.9160400E+00	8.00E-03	0.42	5.12	0.32	0.00	1
whiz34963/whizard.n1n1cddc_o.out:	12	1500000	1.9364682E+00	5.03E-03	0.26	3.18	0.48	0.00	1
whiz34964/whizard.n1n1cbbc_o.out:	12	1500000	1.9199091E+00	4.09E-03	0.21	2.61	0.58	0.00	1

Gluon Propagator is Switched on by Default and Causes Problem for Integral Convergence in Some Cases

$$e^+ e^- \rightarrow \nu_\mu \bar{\nu}_\mu qqqq \quad \sqrt{s} = 3 \text{ TeV} \quad 0 \text{ Pol}$$

$$\alpha_s = 0.12$$

	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34957/whizard.n2n2uddu_o.out:	12	1500000	2.9902694E-01	1.54E-03	0.51	6.31	0.14	0.00	1
whiz34958/whizard.n2n2ubbu_o.out:	12	1500000	1.3830242E-02	7.10E-04	5.14	62.92	0.01	0.00	1
whiz34959/whizard.n2n2cdde_o.out:	12	1500000	1.5259797E-02	1.46E-03	9.57	117.24	0.01	0.00	1
whiz34960/whizard.n2n2cbbc_o.out:	12	1500000	1.2606896E-02	4.94E-04	3.92	47.99	0.01	0.00	1

$$\alpha_s = 0$$

	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34965/whizard.n2n2uddu_o.out:	12	1500000	2.9482367E-01	9.10E-04	0.31	3.78	0.22	0.00	1
whiz34966/whizard.n2n2ubbu_o.out:	12	1500000	5.6456026E-03	2.07E-05	0.37	4.48*	0.32	0.00	1
whiz34967/whizard.n2n2cdde_o.out:	12	1500000	6.5437580E-03	2.95E-05	0.45	5.52	0.22	0.00	1
whiz34968/whizard.n2n2cbbc_o.out:	12	1500000	5.6431274E-03	2.16E-05	0.38	4.68	0.25	0.00	1

Gluon Propagator is Switched on by Default and Significantly Changes Cross Section Some Cases

$$e^+ e^- \rightarrow u\bar{u}d\bar{d} \quad \sqrt{s} = 1 \text{ TeV} \quad 100\% \text{ Pol}$$

$\alpha_s = 0.12$	$e^-(L) e^+(R)$	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34970/whizard.uddu_o.out:		12	15000000	1.3528013E+03	2.86E-01	0.02	0.82	2.24	0.00	1
$\alpha_s = 0.12$	$e^-(R) e^+(L)$	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34971/whizard.uddu_o.out:		12	15000000	2.2476366E+01	1.24E-02	0.06	2.14	0.21	0.00	1
$\alpha_s = 0$	$e^-(L) e^+(R)$	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34974/whizard.uddu_o.out:		12	15000000	1.3306961E+03	2.68E-01	0.02	0.78*	3.24	0.00	1
$\alpha_s = 0$	$e^-(L) e^+(R)$	It	Calls	Integral[fb]	Error[fb]	Err[%]	Acc	Eff[%]	Chi2	N[It]
whiz34975/whizard.uddu_o.out:		12	15000000	1.3669046E+01	4.12E-03	0.03	1.17	1.81	0.00	1