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Monte Carlo samples for top reconstruction studies

- The numbers of produced events were last updated on 28/11/2017 at 13:20
- All samples were generated using WHIZARD 1.95 unless explicitly stated otherwise.

Signal sample (6-fermion production compatible with ttbar) at 380 assuming unpolarised beams

- WHIZARD V57
- $m(h) = 12$ TeV
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- CLIC_ILD, 350 GeV luminosity spectrum scaled to 380 GeV, 0.0464 -> had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	4517	10000	10500	5.1	
ee -> yyveyx	4523	30000	32000	29.7	
ee -> yyxyev	4535	30000	32000	29.7	
ee -> yyuyyc	4541	40000	41500	41.8	
ee -> yycyyu	4544	40000	45000	41.8	
ee -> dduyyu	4547	40000	66000	37.6	
ee -> ssussu	4550	10000	9500	0.0064	
ee -> ssubbu	4553	10000	10000	0.12	
ee -> bbubbu	4556	10000	10000	0.0058	
ee -> ddcyyc	4559	10000	15500	0.38	
ee -> sscssc	4562	10000	10000	0.22	
ee -> sscbbc	4565	40000	39500	36.9	
ee -> bbcbbc	4568	10000	10000	0.0059	
ee -> yyvelv	4571	10000	10000	10.1	
ee -> yyvlev	4574	10000	10000	10.1	
ee -> yyvllv	4577	20000	19500	20.2	
ee -> yyvlyx	4580	60000	67000	59.3	
ee -> yyxylv	4583	60000	66000	59.3	

Signal sample (6-fermion production compatible with ttbar) at 380 assuming $P(e^-) = -80\%$

- WHIZARD V57
- $m(h) = 12$ TeV
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b

- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- **CLIC_ILD**, 350 GeV luminosity spectrum scaled to 380 GeV, 0.0464 → had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	5813	10000	48500	6.94	
ee -> yyveyx	5816	40000	51500	40.4	
ee -> yyxyev	5819	40000	42500	40.4	
ee -> yyuyyc	5822	60000	76500	56.7	
ee -> yycyyu	5825	60000	76500	56.7	
ee -> dduyyu	5828	50000	80500	51.0	
ee -> ssussu	5831	10000	48000	0.009	
ee -> ssubbu	5834	10000	50000	0.164	
ee -> bbubbu	5837	10000	49500	0.008	
ee -> ddcyyc	5840	10000	29500	0.619	
ee -> sscssc	5843	10000	48000	0.392	
ee -> sscbbc	5846	50000	54500	49.8	
ee -> bbcbbc	5849	10000	49500	0.008	
ee -> yyvelv	5852	20000	49000	13.7	
ee -> yyvlev	5855	20000	46500	13.7	
ee -> yyvllv	5858	30000	40000	27.5	
ee -> yyvlyx	5861	80000	96000	80.5	
ee -> yyxylv	5864	80000	80500	80.5	

Signal sample (6-fermion production compatible with ttbar) at 380 assuming P(e-) = +80%

- WHIZARD V57
- m(h) = 12 TeV
- alpha_s = 1e-6
- m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(mu) = 0, m(tau) = 1.777 GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- **CLIC_ILD**, 350 GeV luminosity spectrum scaled to 380 GeV, 0.0464 → had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	5904	10000	12000	3.27	
ee -> yyveyx	5907	10000	10000	19.0	
ee -> yyxyev	5910	10000	13000	19.1	
ee -> yyuyyc	5913	15000	18000	26.9	
ee -> yycyyu	5916	15000	21000	26.9	
ee -> dduyyu	5919	15000	19500	24.2	
ee -> ssussu	5922	10000	11000	0.0036	
ee -> ssubbu	5925	10000	11000	0.078	
ee -> bbubbu	5928	10000	10500	0.0034	
ee -> ddcyyc	5931	10000	13000	0.142	
ee -> sscssc	5934	10000	11000	0.051	
ee -> sscbbc	5937	15000	29000	23.9	
ee -> bbcbbc	5940	10000	11000	0.0035	

ee -> yyvelv	5943	10000	11000	6.47	
ee -> yvlev	5946	10000	13000	6.49	
ee -> yvllv	5949	10000	16000	13.0	
ee -> yvlyx	5952	40000	74500	38.1	
ee -> yxylv	5955	40000	62000	38.1	

Samples to train the flavour tagging at 380

Type	ProdID	Detector	Events planned	Events produced	Comments
ee -> bbbbbb	5456	CLIC_ILD	20000	24900	
ee -> cccccc	5459	CLIC_ILD	20000	24100	
ee -> qqqqqq	5462	CLIC_ILD	20000	23500	q = u,d,s

WHIZARD background samples at 380

- WHIZARD V57
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- CLIC_ILD, 350 GeV luminosity spectrum scaled to 380 GeV, 0.0464 → had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> qqqq	8793	2500000	2693500	5074.8	m(H) = 12 TeV; alpha_s = 1e-6; q=u,d,s,c,b
ee -> qqlv	8799	2500000	2730000	5578.7	m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau; v=nu_e,nu_mu,nu_tau
ee -> qqvv	8819	500000	593500	324	m(H) = 12 TeV; q=u,d,s,c,b; v=nu_e,nu_mu,nu_tau
ee -> qqll	8827	1000000	1079500	1763.8	m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau
ee -> qq	8837	2500000	2749000	21231	m(H) = 12 TeV; q=u,d,s,c,b
ee -> qqqq	8879	2500000	2501500	8912.0	P(e-) = -80%; m(H) = 12 TeV; alpha_s = 1e-6; q=u,d,s,c,b NEW
ee -> qqqq	8899	1000000	1334500	1237.4	P(e-) = +80%; m(H) = 12 TeV; alpha_s = 1e-6; q=u,d,s,c,b NEW
ee -> qqlv	8907	2500000	2752000	9797.8	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau; v=nu_e,nu_mu,nu_tau NEW
ee -> qqlv	8910	1000000	1256000	1359.6	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau; v=nu_e,nu_mu,nu_tau NEW
ee -> qqvv	8919	500000	515000	485.5	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; v=nu_e,nu_mu,nu_tau NEW
ee -> qqvv	8922	200000	212000	162.6	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; v=nu_e,nu_mu,nu_tau NEW
ee -> qqll	8925	1000000	1266500	1841.2	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau NEW
ee -> qqll	8928	1000000	1280500	1686.3	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau NEW
ee -> qq	8943	2500000	2730500	26092	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b NEW
ee -> qq	8946	2500000	2795000	16368	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b NEW

Signal sample (6-fermion production compatible with ttbar) at 500 assuming P(e-) = -100%, P(e+) = + 100%

- WHIZARD V57

- $m(h) = 12 \text{ TeV}$
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0, m(\tau) = 1.777 \text{ GeV}$
- "l" = μ, τ
- "v" = ν_e, ν_μ, ν_τ
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- **CLIC_ILD**, 500 GeV, 0.3 → had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	6296	20000	25000	19.9	
ee -> yyveyx	6326	120000	124500	115.4	
ee -> yyxyev	6335	120000	131000	115.4	
ee -> yyuyyc	6344	170000	223000	162.7	
ee -> yycyyu	6353	170000	227000	162.7	
ee -> dduyyu	6362	150000	397000	146.7	
ee -> ssussu	6371	10000	11500	0.032	
ee -> ssubbu	6380	10000	14500	0.47	
ee -> bbubbu	6389	10000	10000	0.026	
ee -> ddcyyc	6398	10000	13500	2.64	
ee -> sscssc	6407	10000	16500	1.90	
ee -> sscbbc	6416	150000	270000	141.6	
ee -> bbcbbc	6425	10000	12000	0.027	
ee -> yyvelv	6434	40000	72500	39.1	
ee -> yyvlev	6443	40000	82000	39.1	
ee -> yyvllv	6452	80000	122500	77.7	
ee -> yyvlyx	6461	230000	487000	228.8	
ee -> yyxylv	6470	230000	325000	228.8	

Signal sample (6-fermion production compatible with ttbar) at 500 assuming $P(e^-) = +100\%$, $P(e^-) = -100\%$

- WHIZARD V57
- $m(h) = 12 \text{ TeV}$
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0, m(\tau) = 1.777 \text{ GeV}$
- "l" = μ, τ
- "v" = ν_e, ν_μ, ν_τ
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- **CLIC_ILD**, 500 GeV, 0.3 → had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	6293	10000	12000	7.47	
ee -> yyveyx	6329	50000	77500	43.9	
ee -> yyxyev	6338	50000	70500	43.9	
ee -> yyuyyc	6347	70000	80500	63.3	
ee -> yycyyu	6356	70000	85500	63.3	
ee -> dduyyu	6365	60000	140500	57.0	
ee -> ssussu	6374	10000	11500	0.0078	

Signal sample (6-fermion production compatible with ttbar) at 500 GeV assuming $P(e^-) = -100\%$, $P(e^+) = +100\%$

ee -> ssubbu	6383	10000	13000	0.18	
ee -> bbubbu	6392	10000	16000	0.0077	
ee -> ddcyyc	6401	10000	14500	0.23	
ee -> sscssc	6410	10000	12000	0.026	
ee -> sscbbc	6419	60000	91000	56.5	
ee -> bbcbbc	6428	10000	10500	0.0079	
ee -> yyvelv	6437	20000	36000	14.8	
ee -> yyvlev	6446	20000	34500	14.9	
ee -> yyvllv	6455	30000	52500	29.8	
ee -> yyvlyx	6464	90000	172000	87.8	
ee -> yyxylv	6473	90000	107000	87.8	

Signal sample (6-fermion production compatible with ttbar) at 500 assuming unpolarised beams

- WHIZARD V57
- $m(h) = 12 \text{ TeV}$
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0, m(\tau) = 1.777 \text{ GeV}$
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- **CLIC_ILD**, 500 GeV, 0.3 -> had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	6299	10000	11500	6.90	
ee -> yyveyx	6332	40000	77500	40.0	
ee -> yyxyev	6341	40000	84000	40.0	
ee -> yyuyyc	6350	60000	67000	56.5	
ee -> yycyyu	6359	60000	76500	56.5	
ee -> dduyyu	6368	60000	98500	50.9	
ee -> ssussu	6377	10000	12000	0.0098	
ee -> ssubbu	6386	10000	12000	0.16	
ee -> bbubbu	6395	10000	10000	0.0084	
ee -> ddcyyc	6404	10000	17500	0.72	
ee -> sscssc	6413	10000	13500	0.48	
ee -> sscbbc	6422	50000	68500	49.5	
ee -> bbcbbc	6431	10000	11500	0.0086	
ee -> yyvelv	6440	20000	35500	13.5	
ee -> yyvlev	6449	20000	28000	13.5	
ee -> yyvllv	6458	30000	53000	26.9	
ee -> yyvlyx	6467	80000	159000	79.1	
ee -> yyxylv	6476	80000	93000	79.1	

Signal sample (6-fermion production compatible with ttbar) at 1.4 assuming P(e-) = -80%

- WHIZARD V57
- $m(h) = 12 \text{ TeV}$
- $\alpha_s = 1e-6$

- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- **CLIC_ILD**, 1.4 TeV luminosity spectrum, 1.3 -> had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	6586	15000	15600	7.91	
ee -> yyveyx	6589	500000	791000	31.9	extended
ee -> yyxyev	6592	500000	802600	29.0	extended
ee -> yyuyyc	6595	50000	50400	29.7	
ee -> yycyyu	6598	50000	52200	29.7	
ee -> dduyyu	6601	50000	76600	30.0	
ee -> ssussu	6604	10000	11600	0.018	
ee -> ssubbu	6610	10000	11400	0.096	
ee -> bbubbu	6607	10000	12800	0.013	
ee -> ddcyyc	6613	10000	14400	1.82	
ee -> sscssc	6616	10000	11800	1.52	
ee -> sscbbc	6619	40000	58400	23.5	
ee -> bcbbbc	6622	10000	12000	0.013	
ee -> yyvelv	6625	20000	23800	10.8	
ee -> yyvlev	6628	20000	23600	9.82	
ee -> yyvllv	6631	30000	36400	15.6	
ee -> yyvlyx	6634	700000	1141400	40.7	extended
ee -> yyxylv	6637	700000	1131400	40.7	extended

Signal sample (6-fermion production compatible with ttbar) at 1.4 assuming P(e-) = +80%

- WHIZARD V57
- $m(h) = 12$ TeV
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- **CLIC_ILD**, 1.4 TeV luminosity spectrum, 1.3 -> had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	6643	10000	11200	2.47	
ee -> yyveyx	6646	15000	26400	9.27	
ee -> yyxyev	6697	20000	48600	12.2	
ee -> yyuyyc	6652	20000	36000	11.8	
ee -> yycyyu	6655	20000	37800	11.8	
ee -> dduyyu	6658	20000	21000	10.6	
ee -> ssussu	6661	10000	11400	0.0051	
ee -> ssubbu	6664	10000	11800	0.039	
ee -> bbubbu	6667	10000	11400	0.0046	

ee -> ddcyyyc	6670	10000	15800	0.25	
ee -> sscssc	6673	10000	11800	0.18	
ee -> sscbbc	6676	20000	39400	10.2	
ee -> bbcbbc	6679	10000	11600	0.0046	
ee -> yyvelv	6682	10000	12000	3.13	
ee -> yyvlev	6685	10000	12000	4.13	
ee -> yyvllv	6688	10000	10400	5.61	
ee -> yyvlyx	6691	25000	42200	16.0	
ee -> yyxylv	6694	25000	43400	16.0	

WHIZARD background samples at 1.4 assuming polarised beams

- WHIZARD V57
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- CLIC_ILD, 1.4 TeV luminosity spectrum, 1.3 → had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> qqlv	7477	3000000	3520600	6975	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau; v=nu_e,nu_mu,nu_tau
ee -> qqlv	7480	1000000	1160000	1644	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau; v=nu_e,nu_mu,nu_tau
ee -> qqll	8244	1000000	1193000	2681	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau
ee -> qqll	8241	1000000	1192000	2529	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau
ee -> qqqq	8254	1500000	1591800	2304	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b
ee -> qqqq	8257	500000	595000	347	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b
ee -> qqvv	8271	1000000	1118600	1395	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; v=nu_e,nu_mu,nu_tau
ee -> qqvv	8274	200000	283800	180	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; v=nu_e,nu_mu,nu_tau
ee -> qq	8283	2000000	2393200	4843	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b
ee -> qq	8286	1500000	1597600	3169	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b

Signal sample (6-fermion production compatible with ttbar) at 3 assuming P(e-) = -80%

- WHIZARD V57
- $m(h) = 12$ TeV
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- CLIC_ILD, 3 TeV luminosity spectrum, 3.2 → had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
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ee -> yyveev	7278	40000	46400	16.8	
ee -> yyveyx	7281	100000	159100	47.8	
ee -> yyxyev	7284	80000	118500	39.1	
ee -> yyuyyc	7287	30000	34500	14.1	
ee -> yycyyu	7290	30000	35300	14.1	
ee -> dduyyu	7293	30000	37000	12.9	
ee -> ssussu	7296	10000	11900	0.013	
ee -> ssubbu	7299	10000	17700	0.049	
ee -> bbubbu	7302	10000	18400	0.0092	
ee -> ddcyyc	7305	10000	16000	1.38	
ee -> sscssc	7308	10000	18800	1.17	
ee -> sscbbc	7311	30000	56000	10.3	
ee -> bbcbbc	7314	10000	18700	0.0093	
ee -> yyvelv	7320(!)	40000	113500	16.3	
ee -> yyvlev	7317(!)	30000	57100	13.3	
ee -> yyvllv	7323	30000	55000	13.3	
ee -> yyvlyx	7326	40000	87900	19.2	
ee -> yyxylv	7329	40000	176400	19.2	

Signal sample (6-fermion production compatible with ttbar) at 3 assuming P(e-) = +80%

- WHIZARD V57
- m(h) = 12 TeV
- alpha_s = 1e-6
- m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(mu) = 0, m(tau) = 1.777 GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- CLIC_ILD, 3 TeV luminosity spectrum, 3.2 -> had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	7422	10000	11800	3.96	
ee -> yyveyx	7425	20000	23400	7.44	
ee -> yyxyev	7428	40000	49700	16.0	
ee -> yyuyyc	7431	10000	12300	4.71	
ee -> yycyyu	7434	10000	12600	4.71	
ee -> dduyyu	7437	10000	14900	4.27	
ee -> ssussu	7440	10000	11800	0.0034	
ee -> ssubbu	7443	10000	11900	0.018	
ee -> bbubbu	7446	10000	11700	0.0030	
ee -> ddcyyc	7449	10000	18500	0.178	
ee -> sscssc	7452	10000	11800	0.138	
ee -> sscbbc	7473(!)	10000	11800	3.94	
ee -> bbcbbc	7455	10000	11700	0.0030	
ee -> yyvelv	7458	10000	11700	2.52	
ee -> yyvlev	7461	20000	29400	5.47	
ee -> yyvllv	7464	10000	18500	2.93	
ee -> yyvlyx	7467	20000	28200	6.39	

ee -> yyxylv	7470	20000	71000	6.39	
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WHIZARD background samples at 3 assuming polarised beams

- WHIZARD V57
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- CLIC_ILD, 3 TeV luminosity spectrum, 3.2 -> had. / BX

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> qqlv	8590	4000000	4163400	8809.0	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau; v=nu_e,nu_mu,nu_tau
ee -> qqlv	8593	1500000	1786400	2312.5	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau; v=nu_e,nu_mu,nu_tau
ee -> qqll	8608	2000000	2383200	3230.2	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau
ee -> qqll	8611	2000000	2384200	3057.1	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; l=e,mu,tau
ee -> qqqq	8658	1000000	1093650	963.3	P(e-) = -80%; m(H) = 12 TeV; alpha_s = 1e-6; q=u,d,s,c,b
ee -> qqqq	8661	250000	296500	129.7	P(e-) = +80%; m(H) = 12 TeV; alpha_s = 1e-6; q=u,d,s,c,b
ee -> qqvv	8728	1500000	1588800	2361.5	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b; v=nu_e,nu_mu,nu_tau
ee -> qqvv	8731	500000	599100	273.5	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b; v=nu_e,nu_mu,nu_tau
ee -> qq	8740	2000000	2198600	3508.5	P(e-) = -80%; m(H) = 12 TeV; q=u,d,s,c,b
ee -> qq	8743	1500000	1599100	2390.7	P(e-) = +80%; m(H) = 12 TeV; q=u,d,s,c,b

Signal sample (6-fermion production compatible with ttbar) at 365 assuming unpolarised beams

- WHIZARD V57
- $m(h) = 12$ TeV
- $\alpha_s = 1e-6$
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- "l" = mu, tau
- "v" = nu_e, nu_mu, nu_tau
- "y" = d, s, b
- "x" = u, c
- All subsamples in the following table need to be scaled to the same luminosity and then added
- CLIC_ILD, no Beamstrahlung, no -> had. background

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> yyveev	5254	11000	14700	4.2	
ee -> yyveyx	5251	65000	66800	24.2	
ee -> yyxyev	5248	65000	65500	24.2	
ee -> yyvelv	5242	22000	24200	8.2	
ee -> yyvlev	5239	22000	24500	8.2	
ee -> yyvllv	5245	43000	46300	16.5	
ee -> yyvlyx	5233	130000	140800	48.2	
ee -> yyxylv	5352	130000	140100	48.2	

ee -> yyuyyc	5426	90000	105700	33.9	
ee -> yycyyu	5429	90000	103400	33.9	
ee -> dduyyu	5432	80000	119000	30.5	
ee -> ssussu	5435	10000	17600	0.0059	
ee -> ssubbu	5438	10000	23600	0.10	
ee -> bbubbu	5441	10000	23300	0.0053	
ee -> ddcyyc	5444	10000	9500	0.33	
ee -> sscssc	5447	10000	23500	0.19	
ee -> ssebbs	5450	80000	192400	29.9	
ee -> bcbbbc	5453	10000	21000	0.0054	

WHIZARD background samples at 365 assuming unpolarised beams

- WHIZARD V57
- $m(u) = m(d) = m(s) = m(c) = m(b) = m(e) = m(\mu) = 0$, $m(\tau) = 1.777$ GeV
- CLIC_ILD, no Beamstrahlung, no \rightarrow had. background

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> qqqq	5628	2000000	2263600	5227.8	$m(H) = 12$ TeV; $\alpha_s = 1e-6$; $q=u,d,s,c,b$
ee -> qqlv	5679	2000000	1904100	5690.1	$m(H) = 12$ TeV; $q=u,d,s,c,b$; $l=e,\mu,\tau$; $v=\nu_e,\nu_\mu,\nu_\tau$
ee -> qqll	5682	1000000	991300	1692.5	$m(H) = 12$ TeV; $q=u,d,s,c,b$; $l=e,\mu,\tau$
ee -> qqvv	5691	500000	476300	323.4	$m(H) = 12$ TeV; $q=u,d,s,c,b$; $v=\nu_e,\nu_\mu,\nu_\tau$
ee -> qqH	5697	500000	497600	84.9	$m(H) = 125$ GeV; $q=u,d,s,c,b$
ee -> eeH	5700	100000	97900	4.2	$m(H) = 125$ GeV
ee -> mumuH	5703	100000	97800	4.2	$m(H) = 125$ GeV
ee -> tautauH	5706	100000	99000	4.2	$m(H) = 125$ GeV

Samples to train the flavour tagging at 365

Type	ProdID	Detector	Events planned	Events produced	Comments
ee -> bbbbbb	5735	CLIC_ILD	150000	195400	
ee -> ccccc	5738	CLIC_ILD	150000	197200	
ee -> ssssss	5741	CLIC_ILD	150000	195300	
ee -> ddddd	5744	CLIC_ILD	150000	198200	
ee -> uuuuu	5747	CLIC_ILD	150000	198800	

PYTHIA sample at 365 assuming unpolarised beams

- CLIC_ILD, no Beamstrahlung, no \rightarrow had. background

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> tt	5485	100000	99700	385	

WHIZARD samples at 1.4

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> tt	5221	25000	24950	143.7	unpolarised beams

ee -> tt	5224	25000	25000	99.7	P(e) = +80%
ee -> tt	5227	25000	24950	187.7	P(e) = -80%
ee -> tt	5559	250000	237400	143.7	unpolarised beams
ee -> tt	5562	250000	243100	99.7	P(e) = +80%
ee -> tt	5565	250000	239900	187.7	P(e) = -80%

WHIZARD samples at 3

Type	ProdID	Events planned	Events produced	[fb]	Comments
ee -> tt	5536	25000	24950	52.6	unpolarised beams
ee -> tt	5539	25000	24950	68.6	P(e) = -80%

| ee -> tt | 5542 | 25000 | 24950 | 36.5 | P(e) = +80% |

This topic: CLIC > MonteCarloSamplesForTopPhysics

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