

Centre-of-mass energy	$E_{CM}$	GeV	Baseline	1st Stage	L Upgrade	TeV Upgrade A	TeV Upgrade B
			500	250	500	1000	1000
Collision rate	$f_{rep}$	Hz	5	5	5	4	4
Electron linac rate	$f_{linac}$	Hz	5	10	5	4	4
Number of bunches	$n_b$		1312	1312	2625	2450	2450
Bunch population	$N$	$\times 10^{10}$	2.0	2.0	2.0	1.74	1.74
Bunch separation	$\Delta t_b$	ns	554	554	366	366	366
Pulse current	$I_{beam}$	mA	5.79	5.8	8.75	7.6	7.6
Average total beam power	$P_{beam}$	MW	10.5	5.9	21.0	27.2	27.2
Estimated AC power	$P_{AC}$	MW	163	129	204	300	300
RMS bunch length	$\sigma_z$	mm	0.3	0.3	0.3	0.250	0.225
Electron RMS energy spread	$\Delta p/p$	%	0.124	0.190	0.124	0.083	0.085
Positron RMS energy spread	$\Delta p/p$	%	0.070	0.152	0.070	0.043	0.047
Electron polarisation	$P_-$	%	80	80	80	80	80
Positron polarisation	$P_+$	%	30	30	30	20	20
Horizontal emittance	$\gamma \epsilon_x$	$\mu\text{m}$	10	10	10	10	10
Vertical emittance	$\gamma \epsilon_y$	nm	35	35	35	30	30
IP horizontal beta function	$\beta_x^*$	mm	11.0	13.0	11.0	22.6	11.0
IP vertical beta function (no TF)	$\beta_y^*$	mm	0.48	0.41	0.48	0.25	0.23
IP RMS horizontal beam size	$\sigma_x^*$	nm	474	729	474	481	335
IP RMS vertical beam size (no TF)	$\sigma_y^*$	nm	5.9	7.7	5.9	2.8	2.7
Luminosity (inc. waist shift)	$L$	$\times 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$	1.8	0.75	3.6	3.6	4.9
Fraction of luminosity in top 1%	$L_{0.01}/L$		58.3%	87.1%	58.3%	59.2%	44.5%
Average energy loss	$\delta_{BS}$		4.5%	0.97%	4.5%	5.6%	10.5%
Number of pairs per bunch crossing	$N_{pairs}$	$\times 10^3$	139.0	62.4	139.0	200.5	382.6
Total pair energy per bunch crossing	$E_{pairs}$	TeV	344.1	46.5	344.1	1338.0	3441.0