

Table 2. Beam and IP parameters for 500 GeV cms.

	500 GeV Beam and IP Parameters						
	TESLA	USSC	Nominal	Low Q	Large Y	Low P	High Lum
E_cms (GeV)	500	500	500	500	500	500	500
N	2.00E+10	2.00E+10	2.00E+10	1.00E+10	2.00E+10	2.00E+10	2.00E+10
Nb	2820	2820	2820	5640	2820	1330	2820
T_sep (ns)	336.9	336.9	307.7	153.8	307.7	461.5	307.7
Buckets @ 1.3 GHz	438	438	400	200	400	600	400
I_ave (A)	0.0095	0.0095	0.0104	0.0104	0.0104	0.0069	0.0104
Gradient	23.40	28.00	30.00	30.00	30.00	30.00	30.00
IP Parameters							
gamepsX (m-rad)	1.00E-05	9.60E-06	1.00E-05	1.00E-05	1.20E-05	1.00E-05	1.00E-05
gamepsY (m-rad)	3.00E-08	4.00E-08	4.00E-08	3.00E-08	8.00E-08	3.50E-08	3.00E-08
BetaX	1.50E-02	1.50E-02	2.10E-02	1.20E-02	1.00E-02	1.00E-02	1.00E-02
BetaY	4.00E-04	4.00E-04	4.00E-04	2.00E-04	4.00E-04	2.00E-04	2.00E-04
SigX	5.54E-07	5.43E-07	6.55E-07	4.95E-07	4.95E-07	4.52E-07	4.52E-07
SigY	5.0E-09	5.7E-09	5.7E-09	3.5E-09	8.1E-09	3.8E-09	3.5E-09
SigZ	3.00E-04	3.00E-04	3.00E-04	1.50E-04	5.00E-04	2.00E-04	1.50E-04
Dx	2.26E-01	2.35E-01	1.62E-01	7.08E-02	4.68E-01	2.26E-01	1.70E-01
Dy	2.53E+01	2.23E+01	1.85E+01	1.00E+01	2.86E+01	2.70E+01	2.19E+01
U_ave	0.054	0.055	0.046	0.061	0.036	0.100	0.133
delta_B	0.030	0.031	0.022	0.018	0.024	0.057	0.070
P_Beamstrahlung (W)	3.35E+05	3.47E+05	2.48E+05	2.05E+05	2.67E+05	3.06E+05	7.90E+05
N_gamma	1.477	1.504	1.257	0.823	1.664	1.756	1.725
Hd_x	1.061	1.069	1.022	1.002	1.465	1.061	1.026
Hd_y	5.317	5.071	4.727	3.764	3.211	4.142	5.037
Hd	1.80E+00	1.78E+00	1.70E+00	1.56E+00	1.79E+00	1.65E+00	1.74E+00
Geometric Luminosity	1.64E+38	1.45E+38	1.20E+38	1.29E+38	1.12E+38	1.24E+38	2.83E+38
Luminosity (m ⁻² s ⁻¹)	2.94E+38	2.57E+38	2.03E+38	2.01E+38	2.00E+38	2.05E+38	4.92E+38
Coherent pairs/bc	7.14E-35	4.65E-34	7.71E-43	4.29E-31	3.19E-56	3.31E-15	2.21E-09
Inc. Pairs/bc	4.14E+05	3.66E+05	2.59E+05	8.37E+04	3.50E+05	6.12E+05	6.37E+05