

	TLEP Z	TLEP W	TLEP H	TLEP t		TLEP ttH & ZHH
E <sub>beam</sub> [GeV]	45	80	120	175		250
<b>circumf. [km]</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>		<b>100</b>
beam current [mA]	1440	154	29.8	6.7		1.6
<b>#bunches/beam</b>	<b>7500</b>	<b>3200</b>	<b>167</b>	<b>160</b>	<b>20</b>	<b>10</b>
#e <sup>-</sup> /bunch [10 <sup>11</sup> ]	4.0	1.0	3.7	0.88	7.0	3.3
# arc cells in units of base cell	6	2	2	1	2	1
<b>horiz. emit. [nm]</b>	<b>29.2</b>	<b>3.3</b>	<b>7.5</b>	<b>2.0</b>	<b>16.0</b>	<b>4.0</b>
<b>vert. emit. [nm]</b>	<b>0.06</b>	<b>0.017</b>	<b>0.015</b>	<b>0.002</b>	<b>0.016</b>	<b>0.004</b>
bending rad. [km]	11.0	11.0	11.0	11.0		11.0
$\kappa_e$	<b>500</b>	<b>200</b>	<b>500</b>	<b>1000</b>		<b>1000</b>
mom. c. $\alpha_c$ [10 <sup>-5</sup> ]	3.6	0.4	0.4	0.1	0.4	0.1
P <sub>loss,SR</sub> /beam [MW]	50	50	50	50		50
$\beta^*_x$ [m]	0.5	0.2	0.5	1.0		1.0
$\beta^*_y$ [mm]	1.0	1.0	1.0	1.0		1.0
$\sigma_x^*$ [ $\mu$ m]	121	26	61	45	126	63
$\sigma_y^*$ [ $\mu$ m]	0.25	0.13	0.12	0.045	0.126	0.063
$\delta_{rms}^{SR}$ [%]	0.05	0.09	0.14	0.20		0.29
$\sigma_{z,rms}^{SR}$ [mm]	1.16	0.91	0.98	0.68	1.35	1.56
$\delta_{rms}^{tot}$ [%]	<b>0.13</b>	<b>0.20</b>	<b>0.30</b>	<b>0.23</b>	<b>0.29</b>	<b>0.34</b>
$\sigma_{z,rms}^{tot}$ [mm]	<b>2.93</b>	<b>1.98</b>	<b>2.11</b>	<b>0.77</b>	<b>1.95</b>	<b>1.81</b>
hourglass F <sub>hg</sub>	0.61	0.71	0.69	0.90	0.71	0.73
E <sub>loss</sub> <sup>SR</sup> /turn [GeV]	0.03	0.3	1.7	7.5		31.4
V <sub>RF,tot</sub> [GV]	2	2	6	12		35
$\tau_{\parallel}$ (turns)	1319	242	72	23		8
$\delta_{max,RF}$ [%]	5.3	10.6	13.4	19.0	9.5	5.9
$\xi_x/IP$	<b>0.068</b>	<b>0.086</b>	<b>0.094</b>	<b>0.057</b>		<b>0.075</b>
$\xi_y/IP$	<b>0.068</b>	<b>0.086</b>	<b>0.094</b>	<b>0.057</b>		<b>0.075</b>
f <sub>s</sub> [kHz]	0.77	0.19	0.27	0.14	0.29	0.266
E <sub>acc</sub> [MV/m]	3	3	10	20		20
eff. RF length [m]	600	600	600	600		1750
f <sub>RF</sub> [MHz]	800	800	800	800		800
$\mathcal{L}/IP[10^{32} \text{cm}^{-2}\text{s}^{-1}]$	<b>5860</b>	<b>1640</b>	<b>508</b>	<b>132</b>	<b>104</b>	<b>48</b>
number of IPs	4	4	4	4		4
<b>beam lifetime [min] (rad. Bhabha)</b>	<b>99</b>	<b>38</b>	<b>24</b>	<b>21</b>	<b>26</b>	<b>13</b>
beam lifetime [min] (beamstrahlung Telnov with $\eta=2\%$ )	>10 <sup>25</sup>	>10 <sup>6</sup>	38	14	2.1 [11.6 with $\eta=2.5\%$ ]	0.3 [2.8 with $\eta=3\%$ ]