HIGH-ENERGY COLLIDER PARAMETERS: e^+e^- Colliders (III)

Proposed e^+e^- colliders. The numbers here were received from representatives of the colliders in 1993 or early 1994. Numbers are subject to change and many are only estimates; those in parentheses are for later upgrades. Quantities are, where appropriate, r.m.s. H and V indicate horizontal and vertical directions.

	KEKB (KEK)	PEP-II (SLAC)	VLEPP, INP (Serpukhov)
Physics start date	1998	1999	?
Maximum beam energy (GeV)	8×3.5	$e^- \times e^+$: 9×3.1 (6.5 GeV c.m. max)	250
Luminosity (10^{30}cm^{-2}s^{-1})	2000 (→10000)	3000	3000
Time between collisions (μs)	0.01 (→0.002)	0.0042	—
Bunch length (cm)	0.5	1.0	0.075
Beam radius (10^{-6} m)	H: 140 V: 1.4	H: 155 V: 6.2	H: 1 V: 0.007
Free space at interaction point (m), angular spread	±0.2, (+300/ − 500) mrad cone	±0.2, ±300 mrad cone	±1.2
β^*, amplitude function at interaction point (m)	H: 1.0 V: 0.01	e^-: 0.50 (H), 0.02 (V) e^+: 0.375 (H), 0.015 (V)	H: 5×10^{-3} V: 10^{-4}
Interaction regions	1	1 (2 possible)	1