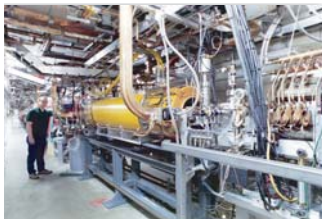
MACHINE PARAMETERS



Linac

Frequency	2.856 GHz
Pulse rep rate (24 contiguous 16.7 ms apart every .5 sec)	30 Hz
Beam pulse length	8-17 nsec
Bunch length	1-10 psec FWHM
Output energy	325 MeV
Output beam charge	2-3 nC
Normalized emittance (mm mrad)	10 π nm mrad

Injector Synchrotron (Booster)

Circumference	368.0 m
Ramping rep rate	2 Hz
Radio frequency	351.930 MHz
Lattice structure	10 FODO cells/quadrant
Nominal extraction energy	7.0 Gev
Injection energy	~350 MeV

Storage Ring System

Circumference	1104 m
Revolution frequency	271.5 kHz
Radio frequency	351.930 MHz
Nominal energy	7.0 GeV
Number of periods in lattice	40
Length available for insertion device	5.0 m
Nominal circulating current, multibunch	100 mA
Natural emittance	2.5 x 10^{-9} mrad
Bunch length, FWHM, natural	40 ps

Low-Energy Undulator Test Line

	PHASE I	PHASE II	PHASE III (planned)
Wavelength (nm)	530	120	51
Photon beam radiation classification	Visible (green)	Vacuum ultraviolet	Extreme ultraviolet
Electron energy (MeV)	217	457	700
Normalized emittance (mm mrad)	5π	3π	3π
Energy spread (%)	0.1	0.1	0.1
Peak current (A)	150	300	300
Undulator period (mm)	33	33	33
Magnetic field (T)	1.0	1.0	1.0
Undulator gap (mm)	9.3	9.3	9.3
Cell length (m)	2.73	2.73	2.73
Gain length (m)	0.81	0.72	1.2
Undulator length (m)	9 x 2.4	9 x 2.4	10 x 2.4