

# Storage Ring Parameters

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## Machine

RF Frequency	50.582 MHz
Circumference (Period)	88.9 m (297 ns)
Number of Branches (Spacing)	15 (19.8 ns)
Number of Bending Magnets (BM)	12
BM Magnetic Radius	2.083 m
Undulator Magnetic Structures	4 PPM (1 APPLE), 2 EM

## Electron Beam

		<b>Base Lattice</b>	<b>LF15</b>	<b>Base Lattice</b>
Energy		800 MeV	800 MeV	1 GeV
Current (start of User fill)		280 mA	280 mA	190 mA
Lifetime (@ Current)		4 h (250 mA)	4 h (250 mA)	9 h (180 mA)
<b>Typical source points</b>				
Bend Magnet	$\sigma_x$	500 $\mu\text{m}$	175 $\mu\text{m}$	625 $\mu\text{m}$
	$\sigma_y$	85 $\mu\text{m}$	80 $\mu\text{m}$	180 $\mu\text{m}$
Undulator	$\sigma_x$	900 $\mu\text{m}$	300 $\mu\text{m}$	1125 $\mu\text{m}$
	$\sigma_y$	70 $\mu\text{m}$	45 $\mu\text{m}$	150 $\mu\text{m}$
Emittance	$\epsilon_x$	120 nm·rad	41 nm·rad	187 nm·rad
Emittance Coupling		1 %	3 %	2 %
Energy spread $\Delta E/E$		$4.5 \times 10^{-4}$	$4.7 \times 10^{-4}$	$5.6 \times 10^{-4}$
Bunch length		77 mm	35 mm	103 mm
With bunch lengthening cavity		175 mm	225 mm	

## Photon Beam

	<b>800 MeV</b>	<b>1 GeV</b>
<b>Critical Energy (Wavelength)</b>	545 eV (22.7 Å)	1065 eV (11.6 Å)
<b>Radiated Power (@ Current) in Bending Magnets</b>	4.9 kW (280 mA)	8.1 kW (190 mA)