

BOOSTER MAGNET DESCRIPTION

The electron beam is injected into the Booster anywhere between 325 to 450 MeV. The electron beam comes from the PAR or directly from the LINAC. The Booster synchrotron is used to accelerate the electron beam to 7 GeV and is then injected into the Storage Ring. All Booster magnets are ramped from low to high current in 223 ms as the beam energy ramps from low to high energy. Once the electron beam is injected into the Storage Ring all magnets reset and the process is repeated. The repetition rate is 2 Hz.

The Booster is separated into 4 quadrants, 1 thru 4 and is 368 m (1207 ft.) in circumference. Sixty eight Booster dipole magnets guide the beam around the ring, 80 quadrupole magnets and 64 sextupole magnets focus the beam and 40 vertical and 40 horizontal corrector dipole magnets correct the beam orbit.