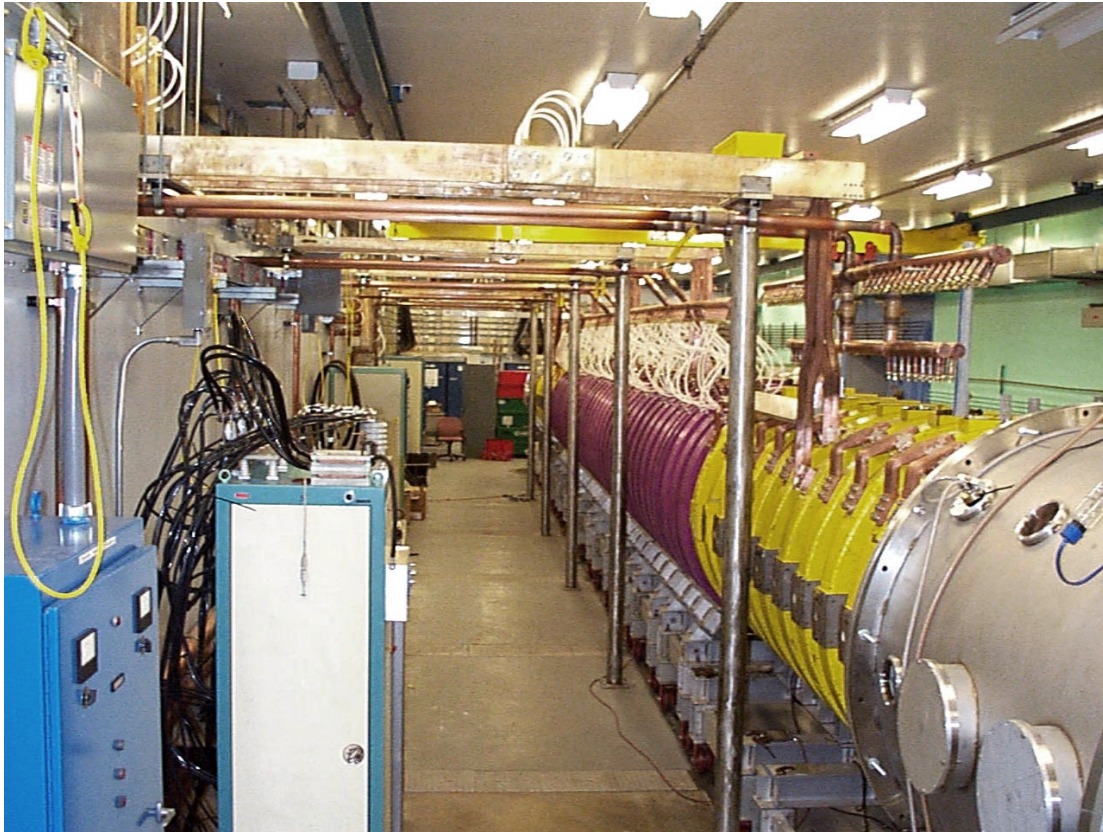


Basic Plasma Science Facility



In the fall of 2001 a user facility for basic plasma science will be fully operational at the University of California, Los Angeles. The facility plasma device is ideally suited for studying a wide variety of plasma phenomena ranging from turbulence in fusion devices to processes occurring in natural plasmas such as the ionosphere, magnetosphere and solar corona. The facility will be open to national and international research teams. The device provides unique research opportunities because its large volume plasma can be controlled and manipulated to create a range of reproducible conditions allowing for 3D measurements of plasma phenomena. The facility plasma machine is a linear device with a plasma column 18 meters long and 75 cm in diameter. The plasma is created by an electron beam from an oxide coated cathode. Fully ionized discharge plasmas are created with densities in the mid $10^{12} / \text{cm}^3$ range and electron temperatures of 10-30 eV. The steady state magnetic field can be as high as 4 kiloGauss and the magnetic field profile can be tailored to create different magnetic geometries including mirrors, cusps and linear gradients. With 450 ports the machine has ample access for diagnostics which include computer controlled probes to measure density, temperature, electric and magnetic fields. Also available to facility users are Laser Induced Florescence, and microwave reflectometry and interferometry. The machine and facility are sponsored by the Department of Energy, National Science Foundation, and Office of Naval Research. For more information contact Prof. W. Geikelman : geikelman@physics.ucla.edu.)