

CesrTA Vacuum System Conversion and Operational Experiences

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Major reconfiguration to the Cornell Electron Storage Ring (CESR) vacuum system was carried out to convert CESR into a test accelerator (CesrTA) for the R&D efforts of the International Linear Collider Damping Ring (ILC DR). The main objective of the CesrTA program is to study electron cloud (EC) growth and suppression in the beampipes, and to provide recommendations to the ILC DR design. The CesrTA reconfiguration created four experimental regions, where over 30 experimental chambers rotated through. These experimental chambers were equipped with many unique EC diagnostics (such as retarding field analyzers, RF-shielded pickup, etc.). A variety of EC suppression techniques (such as coatings, grooved surfaces, and clearing electrode) were evaluated. This talk will describe many unique devices and components used in the CesrTA program over the past two years.