

Ion Clearing Methods for the Electron Storage Ring,
E.V. BULYAK, KFTI, Kharkov, Ukraine - Presented is the survey of the methods of clearing the electron beams from positive ions limiting the beam performance. Considered are: the clearing electrostatic electrodes (CE), a gap in the bunch train (GT), and beam shaking (BS). For the CE method analytical expressions describing the longitudinal, vertical and horizontal shapes of the core density are presented. As it shown for the GT method, the initially neutralized beams require wider gaps for their clearing. The stability islands for the finite density core are wider than for a single ion and may overlap for the short gaps. For all methods the density of the remaining ions is estimated as well as its dependence upon the density and composition of the residual gas. Influence of each clearing method on the beam dynamics is also discussed.