

Beam Emittance in the Electron Storage Ring with a Strong Betatron and Synchrotron Oscillations Coupling, YU. GRIGOR'EV, A. SHCHERBAKOV, A. ZELINSKY, O. ZVONAREVA, Kharkov Inst. of Physics & Technology - The report describes the calculational technique of beam emittance in the electron storage ring with due account of betatron and synchrotron oscillations. The formulas for estimating the electron distribution function in the 4-D phase space are derived. The beam emittance is calculated for the case when frequencies of betatron and synchrotron oscillations are of the same order. It is shown that the emittance calculated by the present formulas differs from that given by Sands.