

**Edge Radiation and its Application to Electron Beam Diagnostics**, A. HIRAYA, N. SMOLYAKOV, H. YOSHIDA, Hiroshima Synchrotron Radiation Center, Univ. Hiroshima - The visible edge radiation generated by relativistic electron beam at fringe fields of bending magnets in electron storage rings is substantially differs from the well-known standard synchrotron radiation. The intensive peak appears in the angular distribution of the radiation intensity. This peak exceeds considerably the intensity of synchrotron radiation. In addition the radiation generated at two adjacent edges of bending magnets produces an interference pattern. The real electron beam parameters (finite transversal sizes, angular spread) effect on the radiation intensity distribution. It makes possible to find the electron beam parameters from the edge radiation distribution. In presented paper such diagnostic system is discussed as applied to HiSOR storage ring (Hiroshima University, Japan).