

UV and Visible Light Diagnostics for the ESRF Storage Ring, K. SCHEIDT, ESRF - A 0.8 T Dipole is the light source for a number of UV & visible light diagnostics that measure very different characteristics and parameters of the 6 GeV Storage Ring of the ESRF. The light extraction system that uses a vertically movable mirror avoiding the deformation of the thermal load of the 2 KW X-ray source is described. A two achromat telescope is used to form an image of the transverse electron beam. These dimensions at less than 100 μm impose working at the lowest possible wavelengths in order to limit the diffraction effect. The results obtained with wave lengths between 250 and 700 nm are presented. A Streak Camera performing bunch length measurements with a 2 ps resolution on very low beam intensities is described and its results presented. It features a continuous fast sweeping at 88 MHz (i.e 1/4 RF) and a dual time base that permits the measurements on one or several bunches on a turn-by turn basis. A photon counter uses an ultra high speed gated and cooled photon multiplier that permits bunch purity measurements with a dynamic range $>10^6$.