

Dual Streak Camera at the ESRF, K. SCHEIDT,
ESRF - The Hamamatsu dual sweep Streak Camera C5680-31 has been in operation since June 1994. It is used for measurements and studies in the longitudinal domain e.g. for bunch lengths and longitudinal instabilities. The camera is fed from the light of a 0.8 T dipole with a photon flux sufficient to perform single shot measurements at SR intensities below 100 μ A. The Streak tube has a spectral sensitivity from 200 to 800 nm and uses an internal MCP intensifier with a gain range of 10^4 and is gateable down to 70 ns. The fast sweep is continuous at 88.05 Mhz (i.e. 1/4 RF ESRF) with full time ranges between 150 ps and 1.5 ns which offers a temporal resolution down to 2 ps. Using a dual time base module in addition (with ranges between 100 ns and 100 ms) means that several individual bunches in the Storage Ring can be measured on a turn-by-turn basis over many consecutive turns. The Streak Camera is now fully integrated in the ESRF's computer system. The remote control of all aspects and a powerful image treatment system guarantee reliable and user-friendly remote operation. Used extensively in 1995 for various special studies on the ESRF Storage Ring, a wealth of results illustrating its performance and versatility will be presented.