

RF Feedback Systems for SC Cavities,
A. MOSNIER, SOLEIL - During the past decade, RF superconductivity expanded successfully and has become an important technology for particle accelerators for high energy physics and nuclear physics. A key component of any high performance accelerator (high intensity ring, low emittances linac, ...) is the RF feedback system that will determine, in particular, the longitudinal phase space and the stability of the multibunch beam. However, the RF system, designed for SC cavities, will differ significantly from the one, designed for copper cavities. Due to their high Q, they operate generally with much higher beam loading and will be much more sensitive to microphonic effects. Concerning operation with pulsed RF, special care must be taken because of dynamic cavity deformation due to radiation pressure. In this paper, the design and performance of RF feedback systems for existing or planned accelerators are reviewed and the challenging tasks for continuous wave and pulsed mode operation are discussed.