

**Measurement of the Longitudinal Coupling Impedances Using Short Electron Bunch,**

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- The longitudinal coupling impedance in modern storage rings have to be limited to ensure beam stability. In ion storage rings it's important to know impedance for non-relativistic particles. To determine the real part of narrow band impedance we suggest to measure the loss factor of the resonant modes using short electron bunch passing through the tested element. This method is suitable for the measurement of the longitudinal impedances for non-relativistic particles. The desired value of relativistic parameter gamma can be chosen by adjusting energy of electron bunch. The impedance of the fundamental mode of wall current monitor was measured using 60 ps electron bunch from photogun. The dependence of impedance on beam energy was measured in the range 20-60 kV. Comparison of experimental data with computer simulation is done.