

**Another Method to Measure the Low-Frequency
Machine Impedance, T. LINNECAR,**

E. SHAPOSHNIKOVA, CERN - The spectrum of long bunches samples the low-frequency part of the machine impedance which is mostly reactive and usually assumed constant. The voltage induced by the bunch produces the well known "potential well distortion" when the RF is on, but also affects the debunching when RF is off. In this paper we present a new method of estimating the inductive impedance by measuring the evolution of bunch parameters, such as the peak line density, when injected into a machine with RF off. This method was used for impedance measurements, with a single proton bunch above transition in the CERN SPS. The results are compared with those obtained with RF on, when the impedance can be estimated from bunch lengthening data.