

**Improved Methods of Measuring and Curing
Coupled Bunch Instabilities in ELETTRA,**

A. FABRIS, C. PASOTTI, M. SVANDRLIK,
Sincrotrone Trieste - Coupled Bunch Instabilities (CBI)
are cured in ELETTRA by high precision temperature
tuning of the RF cavities. The growth rates of the
longitudinal CBIs are computed as a function of the
cavity temperature in order to identify intervals where
the growth rates of all modes are below the radiation
damping rate. The computed stability intervals can
easily be verified on the machine thanks to an
automatic measuring system of the coupled bunch
mode spectrum. Different oscillation amplitudes can be
selected on the machine just by setting different cavity
temperatures. A complete suppression of the
longitudinal CBI has been obtained with greater ease
after the installation of a Higher Order Mode Frequency
Shifter (HOMFS) which provides an additional degree
of freedom for the optimization procedure. Once
longitudinal CBIs are compensated, transverse effects
may be observed, which then can be compensated by
fine temperature tuning.