

Simulations and Measurements of Higher Order Modes of the ELETTRA RF Cavities in View of Coupled Bunch Instability Compensation by Temperature Variation, A. FABRIS, C. PASOTTI, M. SVANDRLIK, Sincrotrone Trieste - Coupled Bunch Instabilities, driven by beam cavity interactions are cured in ELETTRA by temperature tuning of the cavities. To allow a theoretical prediction, the impedance of the parasitic cavity modes must be evaluated over the temperature tuning range. New simulations with URMEL-T were performed in order to compute the modes for a realistic cavity layout, including the 30 cm long drift tubes. A significant reduction in the R/Q for some longitudinal modes was found, as compared to the cavity without drift tubes. Furthermore, the transverse coupling impedances for the cavity dipole modes were computed. The values are periodically checked to make ageing effects evident. Field measurements on a spare cavity are necessary to precisely identify the higher order modes and to evaluate the two polarizations of the dipole modes, with resonant frequencies slightly different due to asymmetries in the cavities.