

Machine Stability and Orbit Correction in ELETTRA, C.J. BOCCHETTA, A. FABRIS, F. IAZZOURENE, E. KARANTZOULIS, R. NAGAOKA, M. SVANDRLIK, L. TOSI, R.P. WALKER, F. WEI, A. WRULICH, Sincrotrone Trieste - After the first commissioning stage, the orbit correction in ELETTRA has been progressing in two directions. One is to guarantee the orbit stability at the source point of each ID straight, where the major component of the orbit variation is found to be a slow drift due to machine stability. High level software is used to perform a slow feed back by means of local bumps. To achieve a correction level of microns with no disturbance elsewhere, correctors involved are first calibrated to obtain an empirical relation with which the bump is rigorously closed. Furthermore in the horizontal plane, a 4-corrector bump is extended to a 5-corrector bump to overcome the variation of path length which affects the orbit globally. The other direction is to improve the efficiency and the quality of static global corrections. Application of SVD algorithm with an empirically obtained matrix, and a simultaneous correction of orbit and spurious dispersion are developed.