Searching for Big Linear Perturbations in Synchrotrons, D. DINEV, INRNE, Sofia - A new algorithm of successive orbit approximation have been developed for searching for availability of large linear perturbations, i. e. field errors and element misalignments and tilts in synchrotrons. Such big perturbations often occur during the machine commissioning and may cause very large closed orbit distortions. The new algorithm has been applied to the superconducting heavy ion synchrotron Nuclotron in JINR - Dubna.