**NERO: a Code for Evaluation of Nonlinear Resonances in 4D Symplectic Mappings***, M. GIOVANNOZZI, CERN; M. GEMMI, E. TODESCO, Bologna University - A code to evaluate the stability, the position and the width of nonlinear resonances in four-dimensional symplectic mappings is described. NERO is based on the computation of the resonant perturbative series through the use of the Lie transformation implemented in the code ARES, and on the analysis of the resonant orbits of the interpolating Hamiltonian. The code is aimed at studying the motion of a charged particle in circular accelerator under the influence of nonlinear forces.

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