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**FOKKER - PLANCK EQUATION SOLVER FOR STUDY STOCHASTIC COOLING
IN STORAGE RINGS**

In this paper so-called the PDE-method for solution of the Fokker - Planck Equation is proposed to study the beam dynamic in the storage ring, where the stochastic cooling is used. This method has been implemented in the new FOPLEQ code. The results of numerical calculations obtained by this code are presented. Calculated results by PDE-method are compared with other numerical algorithms. Application, stability, convergence and precision of the proposed method are discussed.

Keywords: Fokker - Planck equation, stochastic cooling, evolution of the particle distribution.