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9. Ordinary Differential Equations and Dynamical Systems

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Chynkulyak, Nataliya Nikolaevna, Institute of Applied Mathematics and Mechanics, DonetskUkraine

Orbital stability of the two-parameter set of the periodic solutions of the generalized Euler Poisson equations

Investigation of such property of periodic solutions of autonomous systems of differential equations as Lyapunov stability is difficult problem in rare cases it is completed successfully. Using results of V. I. Zubov and Cetaev's method of construction of Lyapunov's function form first integrals for the equations of perturbations, A. Ya. Savchenko suggested the algorithm of investigation of the more rough property solutions as the property of their orbital stability. Modification of this algorithm and its us under investigation of the two-parameter set of the periodic solutions (described in terms of elliptic functions of time) of the generalized Euler-Poisson equations will be presented in this report.