

Nonlinear dynamics of the system of hierarchically coupled oscillators

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Abstract. To describe the motion of the hierarchically connected oscillators, the mathematical model on the basis of Hamiltonian formalism is developed. For certain simplifying constrains, the model is reduced to the three level strongly nonlinear system of ODE. The problem considered is the analysis of system's dynamics, when the friction is incorporated and the harmonic force is applied to the upper level of the system. It is presented the review of recent results concerning the classification of attractors and description of their properties.