BARSUK, Alexander A.; PALADI, Florentin. Sensitivity analysis of the equilibrium states of multi-dimensional dynamical systems for ordinary and bifurcation parameter values. In: *European Physical Journal B*. 2022, nr. 3(95), p. 0. ISSN 1434-6028.

Dependences of the equilibrium states of multidimensional dynamical systems on the parameters of the dynamical system in a small neighborhood of their equilibrium values are investigated. Cases of ordinary and bifurcation values of parameters are considered. Asymptotic representations are derived for sensitivity formulae of the equilibrium values of parameters. Stability analysis of the equilibrium states for nonlinear complex systems described by the Landau-type kinetic potential with two order parameters and the Lotka–Volterra model is conducted. Two different rate processes as combinations of in series and in parallel pathways are examined.