

# BIFURCATION ANALYSIS OF RUBANOVSKII SYSTEM VIA BI-HAMILTONIAN APPROACH

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We discuss about some properties of bifurcation diagram of the gyroscopic generalization of the Steclov-Lyapunov integrable case of Kirchoff equation - Rubanovskii system, describing the motion of a gyrost in an ideal fluid. Using the fact that Rubanovskii system is a bi-Hamiltonian system and applying techniques for analysis of singularities of bi-Hamiltonian system developed by A.Bolsinov, A.Oshemkov we solve the following problems: description of the singularities of the momentum mapping defined by four first integrals of the system, stability analysis for closed trajectories, non-degeneracy and stability analysis for equilibria