

# **HIGH ORDER APPROXIMATIONS OF THE AVERAGING METHOD ON SEMI- AXIS FOR NONLINEAR CONDITIONALLY-PERIODIC NONRESONANCE SYSTEMS**

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In this paper new algorithm of the averaging method is used for approximate description of solutions of systems of differential equations with small parameter in the standard Bogolyubov form. Conditions, under which expansions obtained by the proposed algorithm are suitable for the whole semi-axis, are found. The uniform bound of the remainder term is proved.