

Some Problems with Nonlinear Functional Boundary Conditions

Sergei A. Brykalov, Inst. Mathematics and Mechanics, Ural Branch of Russian Academy of Sciences.

ABSTRACT

Boundary value problems are considered for nonlinear functional differential equations and, in particular, for ordinary differential equations. Boundary conditions are described by nonlinear functionals, which satisfy appropriate monotonicity assumptions. Sufficient conditions for the existence of solutions are obtained. Multiplicity and some properties of solutions are studied. Both problems in general form, and concrete examples are dealt with. Boundary value problems of the considered type arise, in particular, in mathematical theory of control and differential games.

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References

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Contact Address: brykalov@imm.uran.ru