Maksimov, V. P.; Rumyantsev, A. N.
Constructive methods in the theory of functional differential equations and their computer realization. (Bulgarian. English summary) Zbl 0889.34058

Summary: A survey of results concerning constructive analysis (by using computer algebra) of the solvability of linear and nonlinear boundary value problems (BVP) for functional-differential equations is presented. The description of BVP sets allowing an efficient analysis of the solvability and obtaining of estimates and approximations of solutions is given. Examples illustrating the possibilities of the author’s program “Analysis of BVP” (based on FORMAC) are presented.

MSC:
34K10 Boundary value problems for functional-differential equations
65L10 Numerical solution of boundary value problems involving ordinary differential equations
34-04 Software, source code, etc. for problems pertaining to ordinary differential equations

Keywords:
linear and nonlinear boundary value problems; functional-differential equations

Software:
FORMAC