Variation Formulas of Solution and Optimal Initial Date Existence Theorems for Some Classes of Two-Stage Functional Differential Equations

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For nonlinear two-stage functional differential equation with constant delays linear representations of the main part of solution increment with respect to perturbations (variation formulas of solution) will be given. These formulas play an important role under investigation of optimization problems. Besides, theorems on existence of optimal initial date will be formulated.

Two-stage equation is called the collection of various dimensional equations defined on the various intervals with their solutions are connected by intermediate condition. Under initial date we imply the collection of initial function end vector, initial and switching moments.