Boundary value problems for systems of functional differential equations

Robert Hakl
Brno, Czech Republic

Efficient conditions guaranteeing the existence of a solution to the boundary value problem for systems of functional differential equations

\[ u_i'(t) = f_i(u_1, \ldots, u_n)(t) \quad \text{for a.e. } t \in [a, b] \quad (i = 1, \ldots, n), \]
\[ h_i(u_1, \ldots, u_n) = 0 \quad (i = 1, \ldots, n) \]

are established. Here, \( f_i : C([a, b]; \mathbb{R}^n) \to L([a, b]; \mathbb{R}) \) are continuous operators satisfying the Carathéodory conditions and \( h_i : C([a, b]; \mathbb{R}^n) \to \mathbb{R} \) are continuous functionals. The results are concretized for the equations with deviating arguments.

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