Kamont, Z.; **Turo, J.**

A boundary value problem for quasilinear hyperbolic systems with a retarded argument.
(English) Zbl 0658.35085
Ann. Pol. Math. 47, 347-360 (1987).

Consider the boundary value problem for systems of quasilinear hyperbolic differential equations with retarded argument:

$$(1) \quad \sum A_{ij}(x,y,z(x,y))[D_x z_j(x,y) + \sum_{k=1}^{m} \ell_{ik}(x,y,z(x,y),(z\circ\alpha)+(x,y)D_{yk}z_j(x,y)] =$$

$$= f_i(x,y,z(x,y),z\circ\beta)(x,y)),$$

i= $1,2,...,n$, $(x,y)\in D_\alpha$, $y=(y_1,...,y_m)\in R^m$, $m\geq 1$, $(z\circ\alpha)(x,y)=z(\alpha(x,y))$. *P. Bassanini* [Boll. Unione Mat. Ital., VI. Ser. B 1, 225- 250 (1982; Zbl 0488.35056)] studied the system (1). Basing on this work, a theorem of existence, uniqueness and continuous dependence on boundary data is proved for a.e. solutions of problem (1).

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MSC:

35R10 Functional partial differential equations
35L70 Second-order nonlinear hyperbolic equations
35A05 General existence and uniqueness theorems (PDE) (MSC2000)

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