

On the Cauchy problem for hyperbolic functional-differential equations

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We consider the Cauchy problem for a nonlocal wave equation in one dimension. We study the existence of solutions by means of bicharacteristics. The existence and uniqueness is obtained in $W_{loc}^{1,\infty}$ topology. The existence theorem is proved in a subset generated by certain continuity conditions for the derivatives. The motivation for writing the paper [1] was the nonlinear telegraph equation.

[1] A. Karpowicz and H. Leszczyński, *On the Cauchy problem for hyperbolic functional-differential equations*, to appear in *Ann. Pol. Math.*.