

Existence and uniqueness of a classical solution to some evolution system

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Abstract

The theorem of the local existence, uniqueness and estimate of a solution in Hölder spaces to some nonlinear evolution system is formulated and proved. This system is composed of one telegraph equation and an ordinary subsystem with a parameter. In the proof of the theorem we use the Banach fixed-point theorem, the Arzeli-Ascola lemma and the properties of fundamental solutions and characteristics. The possible generalizations are presented.