On solutions of a system of hereditary and self-referred partial-differential equations

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Abstract: In this paper, we present the local and global solutions of a system of hereditary and self-referred partial-differential equations. Namely, by the assumption on the Lipschitz continuity of the initial conditions u_0, v_0, Theorem 1 states the existence of local solutions of the problem (1.3-1.4); furthermore, under the assumption that those initial conditions are non-negative, non-decreasing, bounded, and lower semi-continuous functions, Theorem 2 gives global solution which is also a non-negative, non-decreasing, bounded, and lower semi-continuous function (in variable x of even for any time t). © 2010 Springer Science+Business Media, LLC.
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