A. Arkhipova Cauchy-Neumann problem for a class of nondiagonal parabolic systems with quadratic nonlinearities II. Local and global solvability results

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Abstract: We prove local in time solvability of the nonlinear initial-boundary problem to nonlinear nondiagonal parabolic systems of equations (multidimensional case). No growth restrictions are assumed on generating the system functions. In the case of two spatial variables we construct the global in time solution to the Cauchy-Neumann problem for a class of nondiagonal parabolic systems. The solution is smooth almost everywhere and has an at most finite number of singular points.

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