ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

10. Partial Differential Equations

1991 MS Classification: 35
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On non-classical problems for quasi-linear parabolic equations

The questions of solution existence and uniqueness of non-classical free boundary value problems and some problems in domains with fixed boundaries for quasi-linear parabolic equations are considered. Shauder's type a priori estimations for solutions of the problems in the domains with fixed boundaries are established. In this connection well-known intrinsic estimations are used and the way of getting the estimations up to the boundary is proposed. The problems are also investigated for linear equations and the results are used to the study of the problems for quasi-linear equations.
And the results for the fixed domains are used under the investigation of the problems with free boundary. The structure and smoothness of