

ALIYEV G.F.

**THE IMPROVED CONVERGENCE OF A.A.DORODNITSYN'S
METHOD AND THE METHOD OF QUASI-LINEARIZATION FOR NON-
LINEAR PROBLEM OF GOURSAT**

Abstract

The improved convergence of A.A. Dorodnytsin's method and a quasilinearization method for Goursat's nonlinear problem, when u'_x and u'_y are not contained in a non-linear part is considered in the paper. By means of Dorodnitsyn's method and a quailinearization method the stated boundary- value problem is reduced to the system of ordinary differential equations. Finally, general error for the formulated problem is estimated by a step estimation mechanism.