

Applying the potential method to solving main boundary-value problems for a degenerate elliptic equation

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Abstract

© 2016, Pleiades Publishing, Ltd. Fundamental solutions of a degenerate elliptic equation are found. Potentials of the double-layer type and single-layer type are constructed by means of fundamental solutions. Main boundary-value problems for a degenerate elliptic equation are reduced to equivalent Fredholm integral equations of the second kind. The solvability of the said integral equations is proved.

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Keywords

degenerate elliptic equation, double layer potential, Fredholm equation, generalized translation operator, method of potentials, simple layer potential