EXISTENCE OF SOLUTIONS TO A NONVARIATIONAL ELLIPTIC BOUNDARY VALUE PROBLEM WITH PARAMETER AND DISCONTINUOUS NONLINEARITY

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We consider the question of the existence of the Dirichlet problem for second-order elliptic equations with spectral parameter and a nonlinearity discontinuous with respect to the phase variable. Here it is not assumed that the differential operator is formally selfadjoint. Using the method of upper and lower solutions, we establish results on the existence of nontrivial (positive and negative) solutions under positive values of the spectral parameter for the problems under study.

Key words and phrases: nonselfadjoint differential operator, spectral parameter, discontinuous nonlinearity, method of upper and lower solutions, nontrivial solution.

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