

Contents

Preface	ix
CHAPTER 1. ASYMPTOTIC PROBLEMS FOR NONLINEAR ELLIPTIC EQUATIONS.	
1.1. Nonlinear elliptic boundary-value problems in unbounded domains and the asymptotic behavior of their solutions.	1
CHAPTER 2. ON THE ASYMPTOTIC BEHAVIOR OF SOLUTIONS OF SOME NONLINEAR ELLIPTIC EQUATIONS IN CYLINDRICAL DOMAINS.	
2.1. On the limits at infinity of solutions of some semilinear second order elliptic equations in cylindrical domains.	13
2.2. On the asymptotics at infinity of solutions in cylindrical domains for a class of elliptic second order equations containing first derivatives.	41
2.3. Asymptotics of solutions of the equation $\Delta u - u ^{p-1}u = 0$, $p > 1$, in cylindrical domains.	72
2.4. Asymptotics of solutions of the equation $\Delta u - e^u = 0$ in cylindrical domains.	91
2.5. On an approach to study asymptotics of solutions in cylindrical domains.	109

CHAPTER 3. ON THE ASYMPTOTIC BEHAVIOR OF SOLUTIONS OF NONLINEAR ELLIPTIC EQUATIONS IN A NEIGHBORHOOD OF A CONIC POINT OF THE BOUNDARY.

- 3.1. Asymptotic behavior of solutions of nonlinear elliptic equations near a conic point of the boundary with the Neumann boundary condition. 119
- 3.2. Asymptotic behavior of solutions of nonlinear elliptic equations near a conic point of the boundary with the Dirichlet boundary condition. 129

CHAPTER 4. ON SOME HOMOGENIZATION PROBLEMS.

- 4.1. A homogenization problem for the Laplace operator in a partially perforated domain with the Dirichlet condition on holes. 134
- 4.2. A homogenization problem for the Laplace operator in a partially perforated domain with the Neumann condition on holes. 161
- 4.3. On homogenization of solutions of the Dirichlet problem in partially perforated domains with nonperiodic structures. 184
- 4.4. On the asymptotics of solutions and eigenvalues of an elliptic problem with rapidly alternating type of boundary conditions. 191

- Index** 203