

Contents

Introduction	iii
Chapter 1. Elliptic equations	1
1.1. Conditions $(\rho\nu\xi)$ and $(\rho c\nu\xi)$. Differentiation of weight functions	2
1.2. Carleman estimates for degenerating elliptic operators	14
1.3. The Cauchy problem	37
1.4. Equation of the second order of degeneracy. Uniqueness of non-periodic solution continuation	51
Chapter 2. Parabolic and operator-differential equations	59
2.1. Parabolic equation	59
2.2. Operator-differential equation of the first order	64
2.3. Operator-differential equation of the second order	77
Chapter 3. Volterra equations of the third kind and degenerating equations	93
3.1. A class of linear integral Volterra equations of the third kind with two independent variables	93
3.2. A degenerating partial differential equation	102
3.3. On a class of systems of linear integral Volterra equations of the third order with two independent variables	112
3.4. Systems of degenerating partial differential equations	122
Chapter 4. Nonclassical problems for pseudoparabolic and pseudohyperbolic equations	135
4.1. Uniqueness and stability estimate of solution to a local three-point problem for a pseudoparabolic equation	135

4.2. Stability and uniqueness of solution to a mixed problem for a parabolic equation	140
4.3. On a boundary value problem for a loaded pseudoparabolic equation	145
4.4. Inverse problem for a pseudoparabolic equation	148
4.5. Inverse problem for an operator integro-differential pseudohyperbolic equation	151

Bibliography

173