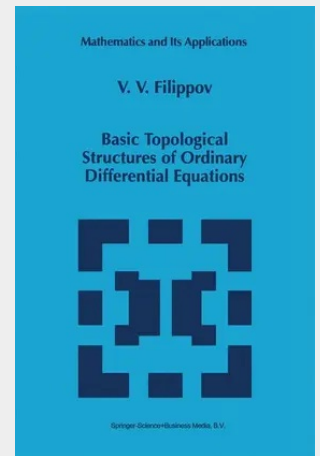


Basic Topological Structures of Ordinary Differential Equations

The aim of this book is a detailed study of topological effects related to continuity of the dependence of solutions on initial values and parameters. This allows us to develop cheaply a theory which deals easily with equations having singularities and with equations with multivalued right hand sides (differential inclusions). An explicit description of corresponding topological structures expands the theory in the case of equations with continuous right hand sides also. In reality, this is a new science where Ordinary Differential Equations, General Topology, Integration theory and Functional Analysis meet. In what concerns equations with discontinuities and differential inclusions, we do not restrict the consideration to the Cauchy problem, but we show how to develop an advanced theory whose volume is commensurable with the volume of the existing theory of Ordinary Differential Equations. The level of the account rises in the book step by step from second year student to working scientist.

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