

<<常微分方程>>

图书基本信息

书名：<<常微分方程>>

13位ISBN编号：9787506259460

10位ISBN编号：750625946X

出版时间：2003-6

出版时间：世界图书出版公司

作者：V.I.Arnol'd

页数：334

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

## <<常微分方程>>

### 内容概要

The first two chapters of this book have been thoroughly revised and significantly expanded. Sections have been added on elementary methods of integration (on homogeneous and inhomogeneous first-order linear equations and on homogeneous and quasi-homogeneous equations), on first-order linear and quasi-linear partial differential equations, on equations not solved for the derivative, and on Sturm's theorems on the zeros of second-order linear equations. Thus the new edition contains all the questions of the current syllabus in the theory of ordinary differential equations.

## &lt;&lt;常微分方程&gt;&gt;

## 书籍目录

Chapter 1. Basic Concepts 1. Phase Spaces 1. Examples of Evolutionary Processes 2. Phase Spaces 3. The Integral Curves of a Direction Field 4. A Differential Equation and its Solutions 5. The Evolutionary Equation with a One-dimensional Phase Space 6. Example: The Equation of Normal Reproduction Chapter 2. Basic Theorems 7. Example: The Explosion Equation 8. Example: The Logistic Curve 9. Example: Harvest Quotas 10. Example: Harvesting with a Relative Quota 11. Equations with a Multidimensional Phase Space 12. Example: The Differential Equation of a Predator-Prey System Chapter 3. Linear Systems 13. Example: A Free Particle on a Line 14. Example: Free Fall 15. Example: Small Oscillations 16. Example: The Mathematical Pendulum 17. Example: The Inverted Pendulum 18. Example: Small Oscillations of a Spherical Pendulum 19. The Linear Equation with a Complex Phase Space 20. The Complexification of a Real Linear Equation 21. The Classification of Singular Points of Linear Systems 22. The Topological Classification of Singular Points 23. Stability of Equilibrium Positions 24. The Case of Purely Imaginary Eigenvalues 25. The Case of Multiple Eigenvalues 26. Quasi-polynomials 27. Nonautonomous Linear Equations 28. Linear Equations with Periodic Coefficients 29. Variation of Constants Chapter 4. Proofs of the Main Theorems 30. Contraction Mappings 31. Proof of the Theorems on Existence and Continuous Dependence on the Initial Conditions 32. The Theorem on Differentiability Chapter 5. Differential Equations on Manifolds 33. Differentiable Manifolds 34. The Tangent Bundle. Vector Fields on a Manifold 35. The Phase Flow Defined by a Vector Field 36. The Indices of the Singular Points of a Vector Field Examination Topics Sample Examination Problems Subject Index

<<常微分方程>>

章节摘录

插图

<<常微分方程>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>