

<<超声流和激波>>

图书基本信息

书名：<<超声流和激波>>

13位ISBN编号：9787506273107

10位ISBN编号：7506273101

出版时间：2006-7

出版时间：北京世图

作者：弗里德里斯

页数：464

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>

<<超声流和激波>>

内容概要

本书初版于1948年，这是1999年的第5次修订印刷版。

一部著作历经半个多世纪仍然再版，毫无疑问这是一本经典图书。

书中讨论了可压缩流体动力学的基本问题，建立了与气体动力学有关的非线性波传播理论。

本书自出版以来一直是流体动力学方面的一部重要参考书，其中所涉及的问题至今仍是热门的研究课题。

<<超声流和激波>>

作者简介

作者：(美国)库朗 (德国)弗里德里斯

书籍目录

. Compressible Fluids 1. Qualitative differences between linear and nonlinear waves A. General Equations of Flow. Thermodynamic Notions 2. The medium 3. Ideal gases, polytropic gases, and media with separable energy 4. Mathematical comments on ideal gases 5. Solids which do not satisfy Hooke's law 6. Discrete media 7. Differential equations of motion 8. Conservation of energy 9. Enthalpy 10. Isentropic flow. Steady flow. Subsonic and supersonic flow 11. Acoustic approximation 12. Vector form of the flow equations 13. Conservation of circulation. Irrotational flow. Potential 14. Bernoulli's law 15. Limit speed and critical speed B. Differential Equations for Specific Types of Flow 16. Steady flows 17. Non-steady flows 18. Lagrange's equations of motion for one-dimensional and spherical flow Appendix--Wave Motion in Shallow Water 19. Shallow water theory . Mathematical Theory of Hyperbolic Flow Equations for Functions of Two Variables 20. Flow equations involving two functions of two variables.. 21. Differential equations of second order type 22. Characteristic curves and characteristic equations 23. Characteristic equations for specific problems 24. The initial value problem. Domain of dependence. Range of influence 25. Propagation of discontinuities along characteristic lines.. 26. Characteristic lines as separation lines between regions of different types 27. Characteristic initial values 28. Supplementary remarks about boundary data 29. Simple waves. Flow adjacent to a region of constant state 30. The hodograph transformation and its singularities. Limiting lines 31. Systems of more than two differential equations Appendix 32. General remarks about differential equations for functions of more than two independent variables. Characteristic surfaces . One-Dimensional Flow 33. Problems of one-dimensional flow A. Continuous Flow 34. Characteristics 35. Domain of dependence. Range of influence 36. More general initial data 37. Riemann invariants 38. Integration of the differential equations of isentropic flow 39. Remarks on the Lagrangian representation B. Rarefaction and Compression Waves 40. Simple waves 41. Distortion of the wave form in a simple wave 42. Particle paths and cross-characteristics in a simple wave 43. Rarefaction waves 44. Escape speed. Complete and incomplete rarefaction waves 45. Centered rarefaction waves 46. Explicit formulas for centered rarefaction waves 47. Remark on simple waves in Lagrangian coordinates 48. Compression waves Appendix to Part B 49. Position of the envelope and its cusp in a compression wave C. Shocks 50. The shock as an irreversible process 51. Historical remarks on non-linear flow 52. Discontinuity surfaces 53. Basic model of discontinuous motion. Shock wave in a tube Isentropic Irrotational Steady Plane Flow . Flow in Nozzles and Jets . Flow in Three Dimensions Bibliography Index of Symbols Subject Index

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>