

1. Record Nr.	UNINA9910792246103321
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Titolo	Ludwig Boltzmann [[electronic resource] ] : the man who trusted atoms // Carlo Cercignani
Pubbl/distr/stampa	Oxford, : Oxford University Press, 2006, c1998
ISBN	0-19-160698-7 0-19-850154-4 1-4294-6929-3 1-280-84567-8
Descrizione fisica	1 online resource (348 p.)
Disciplina	530.092
Soggetti	Atomic structure - History Physicists - Austria
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Originally published: 1998.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Contents; Figure acknowledgements; Introduction; 1 A short biography of Ludwig Boltzmann; 1.1 Youth and happy years; 1.2 The crisis; 1.3 Restlessness; 1.4 Scientific debates and travels; 1.5 The tragic fate of a great scientist; 1.6 Boltzmann as a teacher; 1.7 Boltzmann and inventions; 1.8 Ludwig Boltzmann and his times; 1.9 A poem by Ludwig Boltzmann; 1.10 Boltzmann's personality; 2 Physics before Boltzmann; 2.1 From Galileo and Newton to the early atomic theories; 2.2 The first connections between heat and mechanical energy; 2.3 The springtime of thermodynamics 2.4 Electricity and magnetism3 Kinetic theory before Boltzmann; 3.1 Early kinetic theories; 3.2 The beginnings of modern kinetic theory and the problem of justifying the Second Law; 4 The Boltzmann equation; 4.1 Irreversibility and kinetic theory; 4.2 The great paper of 1872; 4.3 A critique of Boltzmann's approach; 5 Time irreversibility and H-theorem; 5.1 Introduction; 5.2 Loschmidt's paradox; 5.3 Poincare's recurrence and Zermelo's paradox; 5.4 The physical and mathematical resolution of the paradoxes; 5.5 Time's arrow and the expanding universe 5.6 Is irreversibility objective or subjective?5.7 Concluding remarks; 6 Boltzmann's relation and the statistical interpretation of entropy; 6.1

The probabilistic interpretation of thermodynamics; 6.2 Explicit use of probability for a gas with discrete energies; 6.3 Energy is continuous; 6.4 The so-called H-curve; 7 Boltzmann, Gibbs, and equilibrium statistical mechanics; 7.1 Introduction; 7.2 A great American scientist of the nineteenth century: J.W. Gibbs; 7.3 Why is statistical mechanics usually attributed to Gibbs and not to Boltzmann?; 7.4 Gibbs's treatise 7.5 French scientists on statistical mechanics 7.6 The problem of trend to equilibrium and ergodic theory; 7.7 Planck and statistical mechanics; 8 The problem of polyatomic molecules; 8.1 The problem of specific heats; 8.2 The H-theorem for polyatomic molecules; 8.3 Specific heats again; 8.4 Boltzmann's ideas on specific heats, and twentieth century contributions; 9 Boltzmann's contributions to other branches of physics; 9.1 Boltzmann's testing of Maxwell's theory of electromagnetism; 9.2 Boltzmann lays the foundations of hereditary mechanics; 9.3 Back to electromagnetism 9.4 A true pearl of theoretical physics 9.5 Mathematics and foundations of mechanics; 10 Boltzmann as a philosopher; 10.1 A realist, but not a naive one; 10.2 Laws of thought and scientific concepts; 10.3 Ethics, aesthetics, religion; 10.4 Philosophy of science; 10.5 Boltzmann's views on scientific revolutions; 10.6 Boltzmann's education in philosophy; 10.7 Did Boltzmann abandon realism?; 11 Boltzmann and his contemporaries; 11.1 The contacts between Boltzmann and his colleagues; 11.2 Maxwell; 11.3 Lorentz; 11.4 Boltzmann and the energetists; 11.5 Planck; 11.6 Students and younger colleagues 12 The influence of Boltzmann's ideas on the science and technology of the twentieth century

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## Sommario/riassunto

The book presents the life and personality, the scientific and philosophical work of Ludwig Boltzmann. His tragic life ending with his suicide is described in detail. A substantial part of the book is devoted to discussing his work establishing the atomic structure of matter and his influence on modern physics. - ;This book presents the life and personality, the scientific and philosophical work of Ludwig Boltzmann, one of the great scientists who marked the passage from 19th- to 20th-Century physics. His rich and tragic life, ending by suicide at the age of 62, is described in detail. A subst

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