

1. Record Nr.	UNINA9910954470603321
Autore	Buchwald Jed Z
Titolo	The creation of scientific effects : Heinrich Hertz and electric waves // Jed Z. Buchwald
Pubbl/distr/stampa	Chicago, : University of Chicago Press, c1994
ISBN	9786613058126 9780226078915 0226078914 9781283058124 128305812X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (497 p.)
Classificazione	UB 2420
Disciplina	537
Soggetti	Electric waves Physicists - Germany
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 465-478) and index.
Nota di contenuto	Frontmatter -- CONTENTS -- FIGURES -- TABLES -- PREFACE -- ONE. Introduction: Heinrich Hertz, Maker of Effects -- TWO. Forms of Electrodynamics -- THREE. Realizing Potentials in the Laboratory -- FOUR. A Budding Career -- FIVE. Devices for Induction -- SIX. Hertz's Early Exploration of Helmholtz's Concepts -- SEVEN. Rotating Spheres -- EIGHT. Elastic Interactions -- NINE. Specific Powers in the Laboratory -- TEN. The Cathode Ray as a Vehicle for Success -- ELEVEN. Frustration -- TWELVE. Hertz's Argument -- THIRTEEN. Assumption X -- FOURTEEN. A Novel Device -- FIFTEEN. How the Resonator Became an Electric Probe -- SIXTEEN. Electric Propagation Produced -- SEVENTEEN. Electric Waves Manipulated -- EIGHTEEN. Conclusion: Restraint and Reconstruction -- Appendixes -- Notes -- Bibliography -- Index
Sommario/riassunto	This book is an attempt to reconstitute the tacit knowledge-the shared, unwritten assumptions, values, and understandings-that shapes the work of science. Jed Z. Buchwald uses as his focus the social and intellectual world of nineteenth-century German physics. Drawing on the lab notes, published papers, and unpublished manuscripts of

Heinrich Hertz, Buchwald recreates Hertz's 1887 invention of a device that produced electromagnetic waves in wires. The invention itself was serendipitous and the device was quickly transformed, but Hertz's early experiments led to major innovations in electrodynamics. Buchwald explores the difficulty Hertz had in reconciling the theories of other physicists, including Hermann von Helmholtz and James Clerk Maxwell, and he considers the complex and often problematic connections between theory and experiment. In this first detailed scientific biography of Hertz and his scientific community, Buchwald demonstrates that tacit knowledge can be recovered so that we can begin to identify the unspoken rules that govern scientific practice.

---