

EINSTEIN STUDIES

VOLUME

1

**Einstein
and the
History of
General Relativity**

Edited by

**D. Howard
J. Stachel**

**Birkhäuser
Boston · Basel · Berlin**

Contents

Series Preface	v
Preface to Volume One	vii
Acknowledgments	ix
A Note on Sources	x
Introduction	1
 <i>Einstein's Discovery of the General Theory</i>	
What Was Einstein's Principle of Equivalence?	5
JOHN NORTON	
The Rigidly Rotating Disk as the "Missing Link" in the History of General Relativity	48
JOHN STACHEL	
Einstein's Search for General Covariance, 1912–1915	63
JOHN STACHEL	
How Einstein Found His Field Equations, 1912–1915	101
JOHN NORTON	
 <i>The Reception and Development of General Relativity</i>	
Max Abraham and the Reception of Relativity in Italy: His 1912 and 1914 Controversies with Einstein	160
CARLO CATTANI AND MICHELANGELO DE MARIA	
The 1915 Epistolary Controversy between Einstein and Tullio Levi-Civita	175
CARLO CATTANI AND MICHELANGELO DE MARIA	

Hendrik Antoon Lorentz, the Ether, and the General Theory of Relativity	201
A.J. KOX	
The Early Interpretation of the Schwarzschild Solution	213
JEAN EISENSTAEDT	
The Early History of the “Problem of Motion” in General Relativity ..	234
PETER HAVAS	
The Low Water Mark of General Relativity, 1925–1955	277
JEAN EISENSTAEDT	
The Canonical Formulation of General-Relativistic Theories: The Early Years, 1930–1959	293
PETER G. BERGMANN	
<i>Unified Field Theories</i>	
Einstein, Hilbert, and Weyl: The Genesis of the Geometrical Unified Field Theory Program	300
VLADIMIR P. VIZGIN	
Inside the Coconut: The Einstein-Cartan Discussion on Distant Parallelism	315
MICHEL BIEZUNSKI	
<i>Cosmology</i>	
The Einstein–de Sitter Controversy of 1916–1917 and the Rise of Relativistic Cosmology	325
PIERRE KERSZBERG	
The Expanding Universe: A History of Cosmology from 1917 to 1960	367
GEORGE F.R. ELLIS	
Contributors	433
Index	435