

C O N T E N T S

I. GLOBAL POSITIONING SYSTEM AND V.L.B.I.

L.S. BAKER

GPS Its Development and Deployment 3

C. BOUCHER

GPS Receiver Technology 11

C.C. GOAD

Precise Positioning with the GPS 17

G. BEUTLER

GPS Orbit Determination Using the Double Difference Phase Observable 31

W.M. WELSCH

Accuracy Problems when Combining Terrestrial and Satellite Observations 47

J. CAMPBELL

Very Long Base Interferometry 67

II. SURFACE GEODETIC NETWORKS AND UNDERGROUND GEODESY

J. GERVAISE, J. OLSFORS

The LEP Trilateration Network 91

W. GURTNER, B. BURKI

Deviation of the Vertical 111

G. BEUTLER

Comparison between Terrameter and GPS Results - and How to Get There 125

P. BALDI, M. UNGUENDOLI

Geodetic Networks for Crustal Movements Studies 135

W.F. CASPARY

Gyroscope Technology, Status and Trends 163

J.C. FISCHER, M. HAYOTTE, M. MAYOUD, G. TROUCHE

Underground Geodesy 181

III. APPLIED GEODESY FOR PARTICLE ACCELERATORS

J. GERVAISE, E.J.N. WILSON

High Precision Geodesy Applied to CERN Accelerators 209

J. ILIFFE

Three-Dimensional Adjustments in a Local Reference System 247

M. HUBLIN

Computer Aided Geodesy (I) LEP Installation Procedure 269

W. COOSEMANS

Computer Aided Geodesy (II) Instrumentation 279

M. MAYOUD

Applied Metrology for LEP (I) Computing and Analysis Methods 293

J.P. QUESNEL

Applied Metrology for LEP (II) Data Logging and Management of Geodetic Measurements
with a Database 309

C. LASSEUR

Metrology for Experiments 317

IV. MATHEMATICAL GEODESY

H. MORITZ

New Trends in Mathematical Geodesy 345

H.M. DUFOUR

Inverse Regional Reference Systems: A Possible Synthesis between Three- and
Two-Dimensional Geodesy 359

K. BORRE

On Continuous Theory for Geodetic Networks 375

APPENDIX 387