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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	<p>""REALIZATION OF EINSTEINa€S MACHIAN PROGRAM""; ""REALIZATION OF EINSTEINa€S MACHIAN PROGRAM""; ""Contents""; ""Preface""; ""Part I INTRODUCTION AND BACKGROUND""; ""Introduction: What is the Einsteina€?s Machian Program?""; ""Philosophical and Mathematical Matters""; ""1.1.NewtonianConceptsofSpaceandTime""; ""1.2. ObjectionstoNewtona€?sCosmology""; ""1.3.Macha€?sPrinciple""; ""1.4. ThePotentialforGravitation""; ""1.5.EquivalencePrinciple""; ""1.6. ThePrinciplesof(General)Relativity,Covariance,andSimplicity""; ""1.7. Principlesofa€œCosmicTimea€?anda€œCorrespondencea€?"" ""1.8.RevisitingMacha€?sPrinciple""""Introductory Cosmological Models""; ""2.1.DerivationoftheHomogeneousandIsotropicMetric""; ""2.2.Einsteina€?sFieldEquationsforCosmology""; ""2.3. ConstantDecelerationParameterModels""; ""2.4.CosmologicalRed-Shift""; ""2.5.Hubblea€?sLaw""; ""2.6. CosmologicalModelforLargeLambda""; ""2.7.Inflation""; ""2.8.Plancka€? sUniverseandtheL-problem""; ""2.9.Raychaudhuria€? sEquationandanAlternativeForm""; ""2.10.GeodesicsforPhotons,Particles, andTachyonsinRobertsona€?Walkera€?sCosmology""; ""IntroductiontotheProblem""; ""NullGeodesics"" ""GeodesicsforParticlesandTachyonsinaflatUniverse""""2.11. EnergyofRobertsona€?Walkera€?sUniverse""; ""2.12.TheZero-TotalEnergyDensityoftheUniverse""; ""2.13. TheCosmologicalNewtonianLimitofGeneralRelativity""; ""Part II THE</p>

PIONEERS AND FLY-BY ANOMALIES"; "The Pioneers Anomaly and a Machian Universe"; "3.1. Brief History of the Pioneers Anomaly"; "3.2. The Zero-Total Energy Machian Universe"; "Application 1a€? The Pioneers Anomalies"; "Application 2a€? Magnetic Field of the Universe"; "Application 3a€? Time-Varying Neutrino Mass"; "A theory for neutrino energy density"; "Application 4- Are Mass and Length Quantized?"; "Macromass and micromass"; "Quantization of geometry"; "Removal of initial singularity in Cosmology"; "3.3. Dirac's LNH with Time-Varying Fundamental Constants"; "Power-Law Variations"; "Exponential Inflation"; "Rotation of the Universe"; "Pros and Cons of the Present Calculations"; "3.4. On Sciama's Machian Origin of Inertia"; "Sciama's Inertia Model"; "Graneau and Graneau's Theory"; "Conclusions"; "3.5. Sciama's Machian Universe"; "On Berry's Machian Argument"; "Gravitational Radiation in Sciama's Machian Model"; "Quadrupole and Dipole Radiation"; "Temperature of the Universe. Entropy"; "Conclusions"; "3.6. Exact Brans-Dicke Relation and Variable Speed of Light"; "Pioneers Anomaly Solution"; "Conclusions"; "Relativistic Cosmology and the Pioneers Anomaly"; "4.1. Generalized Robertson-Walker Metric: Rotation Plus Expansion"; "Zero-Total Energy Density of the Rotating Evolutionary Universe"; "4.2. Generalized Robertson-Walker Metric: Rotation Plus Expansion II"; "Rotating Evolutionary Metrics"; "Generalized Gaussian Metrics"; "Some Comments"; "4.3. The Pioneers Anomaly and a Machian General Relativistic Model"; "Energy of the Rotating Evolutionary Universe"

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## Sommario/riassunto

This book is a solution of the so-called Einstein's Machian Program, that left Einstein very angry and frustrated, for he was unable to reconcile Relativity Theories with Ernst Mach ideas, that by looking into the Cosmos as a whole, absolute motion could be found. About one hundred years ago, the discussion led to no conclusions among physicists, so that now Berman found that the existence of a Universal rotation, was compatible with General Relativity, and that this rotation is absolute . Berman thus solved the problem.

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