

Gravitation As A Plastic Distortion Of The Lorentz Vacuum

[DOWNLOAD HERE](#)

1;Gravitation as a Plastic Distortion of the Lorentz Vacuum;3 1.1;Preface;5 1.2;Contents;7 1.3;1 Introduction;11 1.3.1;1.1 Geometrical Space Structures, Curvature, Torsion and Nonmetricity Tensors;11 1.3.2;1.2 Flat Spaces, Affine Spaces, Curvature and Bending;13 1.3.3;1.3 Killing Vector Fields, Symmetries and Conservation Laws;16 1.3.4;References;20 1.4;2 Multiforms, Extensors, Canonical and Metric Clifford Algebras;23 1.4.1;2.1 Multiforms;24 1.4.1.1;2.1.1 The k-Part Operator and Involutions;24 1.4.1.2;2.1.2 Exterior Product;25 1.4.1.3;2.1.3 The Canonical Scalar Product;25 1.4.1.4;2.1.4 Canonical Contractions;27 1.4.2;2.2 The Canonical Clifford Algebra;28 1.4.3;2.3 Extensors;29 1.4.3.1;2.3.1 The Space extV;29 1.4.3.2;2.3.2 The Space (p,q)-extV of the (p,q)-Extensors;29 1.4.3.3;2.3.3 The Adjoint Operator;29 1.4.3.4;2.3.4 (1,1)-Extensors, Properties and Associated Extensors;30 1.4.3.4.1;Symmetric and Antisymmetric parts of (1,1)-Extensors;30 1.4.3.4.2;The extension of (1,1)-Extensors;30 1.4.3.4.3;The Characteristic Scalars tr[t]and det[t] ;31 1.4.3.4.4;The Characteristic Biform Mapping bif;33 1.4.3.4.5;The Generalization Operator of (1,1)-Extensors;33 1.4.3.4.6;Normal (1,1)-Extensors;34 1.4.4;2.4 The Metric Clifford Algebra C(V,g);34 1.4.4.1;The Metric Scalar Product;34 1.4.4.2;The Metric Left and Right Contractions;35 1.4.4.3;The Metric Clifford Product;36 1.4.5;2.5 Pseudo-Euclidean Metric Extensors on V;37 1.4.5.1;2.5.1 The metric extensor ;37 1.4.5.2;2.5.2 Metric Extensor g with the Same Signature of ;38 1.4.5.3;2.5.3 Some Remarkable Results;40 1.4.5.3.1;Golden Rule;40 1.4.5.3.2;Hodge Star Operators;40 1.4.5.3.3;Relation Between the Hodge Star Operators of g and the Canonical Hodge Star Operator;41 1.4.5.3.4;Relation Between the Hodge Star Operators of g and ;41 1.4.5.4;2.5.4 Useful Identities;41 1.4.6;References;42 1.5;3 Multiform Functions and Multiform Functionals;43 1.5.1;3.1 Multiform Functions of Real Variable;43 1.5.1.1;3.1.1 Limit and Continuity;44 1.5.1.2;3.1.2 Derivative;44 1.5.2;3.2 Multiform Functions of Multiform Variables;45 1.5.2.1;3.2.1 Limit and Continuity;45 1.5.2.2;3.2.2 Differentiability;45 1.5.2.3;3.2.3 The Directional Derivative AX ;45 1.5.2.3.1;Chain Rules;46 1.5.2.4;3.2.4 The Derivative Mapping X ;47 1.5.2.5;3.2.5 Examples;47 1.5.2.6;3.2.6 The Operators X and their t-distortions ;50 1.5.3;3.3 Multiform Functionals F(X1, ,Xk)[t];51 1.5.3.1;3.3.1 Derivatives of Induced Multiform Functionals;51 1.5.3.1.1;The A-Directional At Derivative of a Multiform Functional;51

1.5.3.1.2;The Operators t ;52 1.5.3.1.3;Examples;53 1.5.3.2;3.3.2 The Variational Operator tw;54
1.5.4;References;56 1.6;4 Multiform and Extensor Calculus on Manifolds;57 1.6.1;4.1 Canonical
Space;58 1.6.1.1;The Position 1-Form;59 1.6.1.1.1;4.1.1 Multiform Fields;59 1.6.1.1.1.1;Extensor
Fields;59 1.6.2;4.2 Parallelism Structure (U_0 ,) and Covariant Derivatives ;60 1.6.2.1;4.2.1 The
Connection 2-Extensor Field on U_0 and Associated Extensor Fields;60 1.6.2.2;4.2.2 Covariant Derivative
of Multiform Fields Associated with (U_0 ,);60 1.6.2.3;4.2.3 Covariant Derivative of Extensor Fields
Associated with (U_0 ,);62 1.6.2.4;4.2.4 Notable Identities;63 1.6.2.5;4.2.5 The 2-Exform Torsion Field of
the Structure (U_0 ,);64 1.6.3;4.3 Curvature Operator and Curvature Extensor Fields of the Structure
(U_0 ,);64 1.6.4;4.4 Covariant Derivatives Associated with Metric Structures (U_0, g);66 1.6.4.1;4.4.1 Metric
Structures;66 1.6.4.2;4.4.2 Christoffel Operators for the Metric Structure (U_0, g);66 1.6.4.3;4.4.3 The
2-Extensor field ;67 1.6.4.4;4.4.4 (Riemann and Lorentz)-Cartan MGSS's (U_0, g ,);67 1.6.4.5;4.4.5
Existence Theorem of the g-gauge Rotation Extensor of the MCGSS (U_0, g ,);68 1.6.4.6;4.4.6 Some
Important Properties of a Metric Compatible Connection;68 1.6.4.7;4.4.7 The Riemann 4-Extensor Field
of a MCGSS (U_0, g ,);69 1.6.4.8;4.4.8 Existence Theorem for the on (U_0, g ,);70 1.6.4.9;4.4.9 The Einst
EAN/ISBN : 9783642135897 Publisher(s): Springer, Berlin Format: ePub/PDF Author(s): Fernndez,
Virginia Velma - Rodrigues, Waldyr A.

[DOWNLOAD HERE](#)

Similar manuals: