

GR 17: Alternative Approaches

Zeit: Freitag 11:30–12:45

Raum: HS 5

GR 17.1 Fr 11:30 HS 5

Geometrie der Weltformel $E = S$ — ●BARBARA SCHRAMM — FORUM DIVIDUUM, Schwanzstr. 7, 98693 Ilmenau

Es geht um den Beweis meiner These. Sie lautet: Einsteins Formel $E = mc^2$ hoch zwei beschreibt zwar den relativistischen Zusammenhang von Masse und Energie, aber nicht ihre Äquivalenz. Ein kosmologischer Schnitt durch die Erde im Himmel offenbart die kausale Geometrie der Makro-Struktur der Masse-Energie-Einheit als Dreieitheit (Trinity) von Licht, Erde und Schatten. Seine Aussage: Befindet sich eine Masse (m) im 3D-Lichtfeld ($c \times c = c^2$) entsteht ein Antifeld des Lichtes, ein 3D-Schattenfeld. Ein Modus-Vivendi der Formel $E = mc^2$ hoch zwei lautet: $mc^2 = S$. Damit ist $E = S$. Der Schatten(S) als ein räumliches Anti-Energie-Feld ist das kausale Ergebnis ($E = S$) der Bindung der Erde als Masse (m) an ein mit ihr wechselwirkendes Licht-Feld ($c \times c$). Die Licht-Schatten-Polarität des Himmels als dividuum (lat. das Zweigeteilte) bestimmt die Machtverhältnisse des Himmels. Tag und Nacht bilden ihre Besitzverhältnisse. Nur aus dem kosmologischen Schnitt durch die Erde in der Ekliptik-Ebene ist der Zusammenhang aller drei Elemente von Licht, Erde und Schatten als Geometry of Trinity erkennbar. Die Anfangsbuchstaben von Licht, Erde und Schatten führten zum Namen ihrer Einheit: L-ES-Struktur. Das kosmologische L-ES-Modell bietet auch der String-Theorie einen plausiblen Beweis ihres Atom-Modells und ist damit der Schlüssel zur Weltformel. Aus dem dynamischen Schnitt durch die Himmel-Erde-Einheit ergibt sich auch die paarweise symmetrisch-verschränkte Geometrie der Gravitation. Sie ist keine vierte Naturkraft.

GR 17.2 Fr 11:45 HS 5

Gravitation as a physical interaction of subatomic particles instead of a geometrical space-time curvature. — ●OSVALDO DOMANN — Stephanstr. 42, D- 85077 Manching

GR is the theory of gravitation of the SM. It is a geometric approach from 1915, based on the representation of subatomic particles as isolated entities in space, arriving to the wondrous concept of space-time curvature. GR resists all intents of integration into a unified field theory and is not compatible with quantum mechanics. An approach is presented for a gravitation theory that is based on the representation of a subatomic particle (SP) as a focal point of rays of Fundamental Particles (FPs) that go from infinite to infinite, FPs where the energy of the subatomic particle is stored as rotations defining angular momenta. With this representation all SPs interact permanently through the angular momenta of their FPs, according to the Mach principle that postulates that physical laws are determined by the large-scale structure of the universe. The approach explains gravitation as the result of the physical reintegration of migrated electrons and positrons to their nuclei. It allows the derivation of all four known forces from one field and is compatible with QED. No wondrous concepts are used. More at www.odomann.com

GR 17.3 Fr 12:00 HS 5

Derivation of the Sommerfeld Fine-Structure-Constant (α) — ●MANFRED GEILHNAUPT — University of Applied Sciences MG

Sommerfeld introduced the Fine-Structure-Constant (α) in 1916 by definition while combining fundamental constants (h , c , e) to come up with that number. But here is the way how to derive the FSC from Theory. Use Einstein's Field Equation from General Relativity and you can first derive the restmass of the electron by solving the corresponding 1. Equation of Motion* and a 2. Equation of Motion yield the charge of the electron. For that step assume an electron's (virtual

and local) center of mass (point) to be at rest while applying the common Principles of Physics (1. and 2. Law of Thermodynamics) to find a solution $r(t)$. The solution $r(t)$, unit meter, reveals an internal action of motion of (non-local but dynamic) space-structure while only the virtual center of *mass* is assumed at rest. So we can interpret $r(t)$ to be a *Mass-Generating-Function* - solving the Differential Equation. The complete solution is a combination of two independent ones. One solution leads to the effective value RG : we call it *Point-Like-Radius* (to be introduced into the following Newton-Schwarzschild-Einstein-Equation: $c^2 = G \cdot m_e / (2\alpha \cdot RG)$). The other solution gives the effective value rG : we call it *Wave-Like-Radius* (to be introduced into the Planck-Compton-Einstein-Equation: $h = 2\pi \cdot 2rG \cdot m_e \cdot c$). And now to the focus of this presentation: How to derive the FSC from GR+TD the combination of two Principle Theories. Both derivations of rest-mass and charge reveal a dependence on the Fine Structure Constant (α). (Experiment Webb. et al. 2011 meets GR+TD!)

GR 17.4 Fr 12:15 HS 5

Biquadric Fields on a Finite Geometry as a Quantum World — ●JUDITH HÖFER, ALEXANDER LASKA, and KLAUS MECKE — Institut für Theoretische Physik 1, FAU Erlangen-Nürnberg, Germany

A unification of quantum field theory and general relativity might be based on finite projective geometry [1]. To this end the standard approach of using real (or complex) numbers as number field for coordinates (or wavefunctions) is replaced by a Galois field. The idea is to model spacetime similar to general relativity but based on a finite field such that quantization is not additionally imposed but emerges intrinsically from the finite geometry. Then, singularities and divergences cannot exist neither in a curved spacetime nor in a quantum world modeled over finite fields. However, the quite unusual properties of finite fields require additional care in defining physical quantities. Central to this approach is a 'biquadric' that defines, similar to a metric, distances and neighbourhoods. The long-time goal is to derive the properties of the standard model in a continuum limit for very large finite fields. In the presented work a local domain is defined as the subspace where an Euclidean-like ordering of the points is possible, and the coordinate transformations between different local domains are investigated. Furthermore, the finite field and the neighbouring relations defined by a homogeneous field of biquadrics are interpreted as a graph and its diameter is explored in order to elucidate non-local features in finite geometries.

[1] Klaus Mecke, Biquadrics configure Finite Projective Geometry into a Quantum Spacetime, EPL 120(1), 10007 (2017).

GR 17.5 Fr 12:30 HS 5

Newton's Error - the Concepts of Space and Time — ●ALEXANDER UNZICKER — Pestalozzi-Gymnasium München

The fantastic success of classical mechanics was based on Isaac Newton's postulate of the existence of space and time. Much later, relativistic effects and quantum phenomenology modified significantly our picture of reality, while leaving the very notion of space and time intact.

In contrast to the current paradigm of theoretical physics, it is argued that both the speed of light c and Planck's constant h are free parameters in a Kuhnian sense. In that case, relativity and quantum theory would be ingenious workarounds rather than solutions of the real problems. c and h may indeed be anomalies that falsify the very concept of space and time, a rather unpleasant perspective for modern physics.