

GR 13: Alternative Approaches to Quantum Gravity

Zeit: Donnerstag 15:00–16:30

Raum: HS 5

GR 13.1 Do 15:00 HS 5

The tacit assumption of continuity of spacetime in quantum gravity — ●RENÉ FRIEDRICH — Strasbourg

Theories of quantum gravity are attempting without success the quantization of spacetime. They are founded on the tacit assumption of a continuous, differentiable manifold of Lorentzian spacetime. It will be shown, based on 5 different approaches, that general relativity unexpectedly does not admit any manifold character for spacetimes with Lorentzian metric.

GR 13.2 Do 15:15 HS 5

Equivalence Principle of Quantum Gravity — ●HANS-OTTO CARMESIN — Universität Bremen, Fachb. 1, Pf. 330440, 28334 Bremen — Gymnasium Athenaeum, Harsefelder Straße 40, 21680 Stade — Studienseminar Stade, Bahnhofstraße 5, 21682 Stade

An equivalence principle is elaborated and founded. With it a third development of H.-O. Carmesin's theory of quantum gravity is presented. The theory combines quantum physics with general relativity and is based on three numerical inputs only: the constants G , c and h (Carmesin, H.-O. (2017): Vom Big Bang bis heute mit Gravitation, Model for the Dynamics of Space. Berlin: Verlag Dr. Köster. Carmesin, H.-O. (May 2018): Entstehung dunkler Materie durch Gravitation, Model for the Dynamics of Space and the Emergence of Dark Matter. Berlin: Verlag Dr. Köster. Carmesin, H.-O. (November 2018): Entstehung der Raumzeit durch Quantengravitation, Theory for the Emergence of Space, Dark Matter, Dark Energy and Space-Time. Berlin: Verlag Dr. Köster.). With that theory cosmic inflation is explained. Hereby energy is conserved, no reheating occurs, the flatness problem and horizon problem are solved and the deviation from observations is only 3 %. Additionally with that theory dark matter is explained by a novel elementary particle, hereby the deviation from observations is only 0.23 %. Moreover with that theory dark energy is explained by zero-point oscillations, hereby the deviation from observations is only 0.073 % and differences of measured Hubble constants are explained by a polychromatic vacuum, hereby the deviation from observations is only 1 %.

GR 13.3 Do 15:30 HS 5

Anisotropic Solutions in Quantum Gravity — ●BEN JOSHUA HELMCKE¹ and HANS-OTTO CARMESIN^{1,2,3} — ¹Gymnasium Athenaeum, Harsefelder Straße 40, 21680 Stade — ²Universität Bremen, Fachb. 1, Pf. 330440, 28334 Bremen — ³Studienseminar Stade, Bahnhofstraße 5, 21682 Stade

A novel equivalence principle has been developed and utilized in a research club. From that principle Hans-Otto Carmesin's theory of quantum gravity has been derived. With it various fundamental problems of physics have been solved and an accurate accordance with observations has been achieved. Thereby all results have been obtained by utilizing only three numerical inputs: the fundamental natural constants G , c and h . In addition a novel minimization principle has been developed. It establishes a tool for the analysis of emerging structures at the ground state. In particular the emergence of dark matter has been explained and excellent quantitative accordance with observations of the CMB has been achieved, whereby the deviation is below 0.23 %. Hereby the elementary particle of dark matter has been derived (see for instance Carmesin, H.-O.: Entstehung dunkler Materie durch Gravitation, Model for the Dynamics of Space and the Emergence of Dark Matter. Berlin: Verlag Dr. Köster, May 2018). The obtained elementary particle of dark matter is an isotropic solution of quantum gravity. Here we present a numerical study of anisotropic solutions of quantum gravity.

GR 13.4 Do 15:45 HS 5

Investigation of the Emerging Potential and corresponding Wave Function in Quantum Gravity — ●LINNEA WILLEKE¹ and HANS-OTTO CARMESIN^{1,2,3} — ¹Gymnasium Athenaeum, Harse-

felder Straße 40, 21680 Stade — ²Universität Bremen, Fachb. 1, Pf. 330440, 28334 Bremen — ³Studienseminar Stade, Bahnhofstraße 5, 21682 Stade

An equivalence principle has been developed and used in a research club. From that principle H.-O. Carmesin's theory of quantum gravity has been derived. With it fundamental problems of physics have been solved and an accurate accordance with observations has been achieved based on the natural constants G , c and h . In particular the era of cosmic inflation has been explained and excellent quantitative accordance with observations of the CMB is achieved, whereby the deviation is below 3 %. Thereby the flatness problem, the horizon problem and the problem of energy conservation have been solved (see for instance Carmesin, H.-O. (2018): A Model for the Dynamics of Space - Expedition to the Early Universe. PhyDid B, p. 1-9. Carmesin, H.-O. (November 2018): Entstehung der Raumzeit durch Quantengravitation, Theory for the Emergence of Space, Dark Matter, Dark Energy and Space-Time. Berlin: Verlag Dr. Köster.). The theory utilizes wave functions and corresponding gravitational potentials. Thereby a slight approximation has been used. Here we generate these wave functions and the corresponding gravitational potentials simultaneously with help of a fixed point method. Thereby the convergence is established numerically.

GR 13.5 Do 16:00 HS 5

Surrounding — ●FREDERIC LASSAILLE — Nice, France

SMT (Surrounding Matter Theory), an alternative theory to dark matter, is presented. It is based on a modification of Newton's law. This modification is done by multiplying a Newtonian potential by a given factor, which is varying with local distribution of matter, at the location where the gravitational force is exerted. With this new equation the model emphasizes that a gravitational force is roughly inversely proportional to mass density at the location where this force is applied. After presentation of the model, its dynamic is quickly applied to cosmology and galaxy structure. Some possible caveats of the model are identified. But the simple mechanism described above suggests the idea of a straightforward solution to the following issues: virial theorem mystery, the value of cosmological critical density, the fine tuning issue, and expansion acceleration. A de Sitter Universe is predicted. The predicted time since last scattering is 68 h-1 Gyr. With this value the heterogeneities of large scale structures and galaxy formation might be better explained. Simulations of the stars in a galaxy have been executed with SMT. They show interesting speed profiles, and the fact that ring galaxies seems to be generated by SMT dynamic itself, without the help of any particular external event. Those studies give motivation for scientific comparisons with experimental data.

GR 13.6 Do 16:15 HS 5

Künstliche Intelligenz KI in der Gravitationsphysik und der Kosmologie. — ●NORBERT SADLER — Sadler Norbert; Wasserburger Str. 25a 85540 Haar

Durch Anwendung der KI auf Quantensysteme, wie Energie- und Materie-Zustände, können diese Zustände mittels der Matrizenmechanik auf die Eigenvektoren bzw. die Eigenwerte linear abgebildet werden.

So kann gezeigt werden, dass der lineare Planckenergiedichte Zustand $E(Pl.)/l(Pl)$ auf den Eigenvektor der Gravitation mit 4/9 Protonen Energieäquivalenten auf 1m Ortsraum abgebildet werden kann.

Die linearen Materie Zustände von $(1kg Mol)/1m$ Protonen Zuständen $N(A)/1m$ werden mit dem dunklen Anteil von 23.8% einer Protonenmasse über den Radius des Universums linear abgebildet.

Die Größe der dunklen Materie ist somit abhängig von der Krümmung des Universums. Die dunkle Materie resultiert aus der Geometrie des Raumes und kann nicht über ein spezifisches Elementarteilchen verifiziert werden.

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