

## GR 5: Alternative aspects and formulations

Time: Wednesday 14:00–15:45

Location: H6

GR 5.1 Wed 14:00 H6

**The Dark Matter Problem and a General Solution** — ●ALBRECHT GIESE — Taxusweg 15, 22605 Hamburg

The problem of dark matter in the rotation of galaxies has existed for 90 years. Further unexplained phenomena in astronomy are also related to this title, such as gravitational lensing, structure formation, the excessive number of small galaxies and the Bullet Cluster.

The solutions attempted by contemporary physics assume invisible 'dark' particles, or else modified Newton dynamics (MOND). But neither yields a solution for all cases. And even worse: Each theory is in conflict with observations covered by the other solution. This means: no solution exists. - And no evidence of dark matter particles has been found despite intense efforts.

A general solution may be provided by an approach to gravity which was initially pursued by Einstein in 1911, before switching to his space-time structure. In it, Einstein used the variation of the speed of light  $c$  in a gravitational field. - If this variation is applied to the internal oscillations in a particle, it causes grav. acceleration. Now, the cause of the variation in  $c$  is not plausibly the mass of the source, because light particles, as neutrinos and photons, reduce  $c$  equally as all other objects around them and so contribute to the gravitational field.

This alternative view on gravity can be shown to explain all aspects of dark matter. In particular, rotation curves can be calculated quantitatively. It also covers those cases for which both the present solutions provide nothing, such as luminosity-dependent phenomena (Renzo / Tully-Fisher). And it conforms to GR.

GR 5.2 Wed 14:15 H6

**Time velocity - handling time dilation between two points in space-time** — ●BJØRN EBBESEN — Hamburg, Germany

Combining SRT with static gravitation, as done in the following, could have been a forerunner to the ART.

This approach leads to a concept of time velocity, which not only simplifies handling time dilation. Without relying on ART we get straight forward a variety of old and new insights on gravitation, energy, matter and space.

Some suggestions for theoretical and experimental physics are given.

Finally, concept of time velocity enables a new interpretation of cosmological red-shift.

GR 5.3 Wed 14:30 H6

**Re-defining the basic concept of Time and Space** — ●HARJEET SINGH — HCL Technologies, Vilnius, Lithuania

This paper aims at a new understanding on the basic concept of \*Time and Space\* dimension that can supersede the present \*Spacetime\* dimension. Hence, it can contribute in exploring time beyond the Big Bang \* the edge of Spacetime dimension.

The approach in this research is based on scientific skepticism, which is further based on interpretation of relevant theories related to Time and Space. The present research not only introduces and proves the hypothesis that the Entire-Existence is the sole all-inclusive entity comprising of all the physical entities, but also changes the entire notion of Spacetime from being a physical entity to being two different physical dimensions \*Time and Space\*. The term \*dimension\* is the measure of a particular property of any physical entity such as Mass, Length, Temperature etc. Thereby, this research redefines \*Time\* as a dimension to measure the change of state of Entire-Existence and \*Space\* as a dimension to measure the spatial expanse of Entire-Existence. This research eventually solves several paradoxes concerning time travel and examines the possibility and scope of actual time travel.

Nevertheless, the testable predictions have been observed based on the proved hypothesis, as per which the empirical investigations can be performed further. This research will certainly expand the horizons of our current known Universe.

GR 5.4 Wed 14:45 H6

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

GR is the theory of gravitation of the SM. It is a mathematical 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 move from infinite to infinite. The energy of a subatomic particle is stored at its FPs as rotation 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. Gravitation is so composed of a Newton and an Ampere component, with the Newton component dominant at sub galactic distances and the Ampere component at galactic distances. A positive Ampere component explains the speed flattening of galaxies and a negative Ampere component the expansion. More at: [www.odomann.com](http://www.odomann.com)

GR 5.5 Wed 15:00 H6

**Methode um die Bewegung zum Gravitationsfeld zu messen.** — ●KARL-HERBERT DARMER — Meyertwiete 7, 22848 Norderstedt

Haben wir die Relativität schon richtig verstanden? Dazu zwei grundlegende Fragen: Gibt es etwas im \*leeren Raum\* das bestimmt, ob ein Körper rotiert? Wenn es etwas gibt, zu dem man rotieren kann, dann kann man sich auch geradlinig dazu bewegen. Was haben Uhren mit der \*Zeit\* zu tun? Atomuhren gehen auf dem Berg schneller und Pendeluhren langsamer als im Tal. Ich gehe davon aus, dass beide mit der Zeit gleichviel zu tun haben. Nur die angezeigten Messwerte werden durch Umgebungs- veränderungen unterschiedlich beeinflusst, weil sie unterschiedliche Messprinzipien haben. Ein anderes Beispiel: Man misst eine Masse mit einer Balkenwaage und einer Federwaage. Das wiederholt man auf dem Mond und erhält bei der Federwaage ein anderes Ergebnis. Die Frage ist: Was haben Waagen mit der Masse zu tun? Bei der Rotation zeigen die Uhren einen eindeutig unterschiedlichen Gang. Siehe Universal Time Coordinated und die Satellitennavigation. Unter Einsteins Gleichzeitigkeitsdefinition sind die Verhältnisse identisch zu Inertialsystemen. Bei der Rotation kann aber gezeigt werden, dass hier die räumliche Gleichzeitigkeit nicht Einsteins Gleichzeitigkeitsdefinition entsprechen kann. Aus dem Gang von Licht- oder Atomuhren kann eine Methode abgeleitet werden, mit der man die Relativbewegung zu dem messen kann, was den Gang der Uhren bestimmt. Das geht dann nicht nur bei der Rotation, sondern auch bei der geradlinigen oder inertialen Bewegung. Mehr dazu unter [www.darmer.de/2021SMuK](http://www.darmer.de/2021SMuK)

GR 5.6 Wed 15:15 H6

**Relativity expressed as a speed problem instead of a space-time problem, as done in special relativity.** — ●OSVALDO DOMANN — Stephanstr. 42, 85077 Manching

Variables of one physical event expressed in two relative moving inertial reference systems are defined by the constant relative speed. Special relativity is built on space and time instead of only the relative speed to get the constant light speed in both reference systems. Unphysical relative variables of time and space and contradictions (twin paradox) are the results. The present paper is a work where relativity is treated exclusively as a speed problem to get the constant light speed in both reference systems. The result is that time and space are absolute variables without contradictions. The Lorentz transformation gives the well-known relativistic equations for the momentum, acceleration, energy and longitudinal Doppler-Effect. The approach also concludes that light is emitted with light speed in the reference system of its source and that it arrives to the second inertial reference system with the speed  $c+v$ , contrary to Einstein's postulate, that light moves always with light speed independent of its source. More at [www.odomann.com](http://www.odomann.com)

GR 5.7 Wed 15:30 H6

**Lorentzianische Relativität** — ●ALBRECHT GIESE — Taxusweg 15, 22605 Hamburg

Warum lorentzianisch? Die Relativität von Einstein beruht auf der Annahme, dass die gemessene Konstanz der Lichtgeschwindigkeit eine physikalische Realität ist, kein bloßes Messergebnis. Sie führt jedoch zu Komplikationen. Sie erforderte den Ansatz einer verwobenen Raum-

zeit, welche die viel einfachere euklidische Geometrie ersetzen musste. Einsteins Ansatz führt dabei zu logischen Konflikten, sobald es sich nicht um lineare Bewegung, sondern um Drehung handelt. Einstein hat diese Konflikte sogar gegenüber seinem Kollegen Lorentz eingeräumt, und er hat nie eine echte Lösung dafür angeboten.

Folgt man dem Ansatz von Lorentz, werden sowohl die mathematische Behandlung als auch die Vorstellbarkeit grandios einfacher. Die logischen Konflikte bei Einstein werden vermieden. Offene Probleme der heutigen RT wie vor allem die Dunkle Energie entfallen gänzlich.