T 122: Miscellaneous

Time: Friday 9:00–10:15 Location: Geb. 30.41: HS 1

T 122.1 Fri 9:00 Geb. 30.41: HS 1

Do we Need a New Particle Collider? — •Alexander Unzicker — Pestalozzi-Gymnasium München

The goals of current collider projects are evaluated under a historical perspective, taking into account the development of particle physics since the 1960s and past predictions for physics beyond the standard model.

T 122.2 Fri 9:15 Geb. 30.41: HS 1

Kaluza mit Spin — •Thomas Schindelbeck — thomas.schindelbeck@iraeph.de

Theodor Kaluzas Modell für eine einheitliche Beschreibung von Gravitation und Elektrodynamik liefert völlig falsche Größenordnungen für Teilcheneigenschaften, ein Problem, das sich auch durch eine Kombination mit Konzepten der Quantenmechanik, erstmals vorgeschlagen von Oskar Klein, nicht zufriedenstellend lösen lässt. Ein modifiziertes Kaluza-Modell, mit Priorität auf Elektrodynamik sowie halbzahligem Spin als Randbedingung, ist dagegen in der Lage, zahlreiche Teilcheneigenschaften ab initio mit einer Genauigkeit in der Größenordnung von QED-Korrekturen zu beschreiben. U.a. liefert der Ansatz:

- a priori 12 elementare Objekte mit den Ladungen der 12 elementaren Fermionen; - eine konvergierende Reihe von Teilchenenergien mit Energie des Elektrons und des Higgs-VEV als oberem und unteren Grenzwert; - magnetische Momente der Baryonen, elektroschwache Kopplungskonstanten etc.

T 122.3 Fri 9:30 Geb. 30.41: HS 1

An emergent model for wavefunctions that explains gauge interactions and particle physics — •Christoph Schiller — Motion Moutain Research

It is shown that the approach by Dirac and by Battey-Pratt and Racey describing fermions as tethered objects yields spinor wave functions, the Dirac equation, the gauge groups, the gauge interactions, and the elementary particle spectrum. Thus, a single principle explains the standard model of particle physics, including quantum electrodynamics and quantum chromodynamics. The conclusions deduced from the principle agree with all experiments so far, both in particle physics and in general relativity. Testable experimental predictions are deduced.

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C. Schiller, Testing a conjecture on quantum chromodynamics, International Journal of Geometric Methods in Modern Physics, 20 (2023) 2350095.

C. Schiller, Testing a conjecture on quantum electrodynamics, Journal of Geometry and Physics 178 (2022) 104551.

C. Schiller, Testing a conjecture on the origin of the standard model, European Physical Journal Plus 136 (2021) 79.

Details at https://www.motionmountain.net/research.html

T 122.4 Fri 9:45 Geb. 30.41: HS 1

Particle models established in cylindrical eigenspaces with D = 6, 10 and 26 dimensions — •Hans-Dieter Herrmann — Berlin

Particles observable in space-time are assumed to exist also in cylindrical eigenspaces. The building stones are rotons (entities consisting of masses and charges circulating with the velocity of light) with 4 dimensions. A two-dimensional noncommutative circulation plane, a spin axis and time give D = 4. Two rotons with common spin axis and time (called biroton) make up a lepton model with D = 6 dimensions. The small mass of the electron appears as the mass difference of a roton with positive and an antiroton with negative energy.

N coupled rotons or antirotons have eigenspaces with D = 2N + 2 dimensions. Models of mesons have two rotons and two antirotons with N = 4; D = 10, models of baryons have 12 rotons or 12 antirotons and D = 26. The dimensions of the models are known from little string theories (D = 6), superstring theories (D = 10) and bosonic string theories (D = 26).

Masses and magnetic moment anomalies of lepton and baryon models as well as masses of meson models are presented. Neutrino oscillation and weak parity violation are discussed within the framework of the models. Single rotons of positive and negative energy are suspected of representing dark matter and dark energy. They cannot exist in space-time, but interact by gravitation.

T 122.5 Fri 10:00 Geb. 30.41: HS 1

Modified theory of elementary particles. — •Albrecht Giese — Taxusweg 15, 22605 Hamburg

For decades, it has been the viewpoint of physics that elementary particles can only be understood and treated using quantum mechanics. However, another way is possible.

If Louis de Broglie's approach at the time is taken up and developed further, a number of particle parameters can be determined in the classical way. And this with a greatly simplified mathematical formalism and with results that are not only on a par with QM, but even superior. A striking example is the classical derivation of inertia/mass, which provides very precise and easily comprehensible results. It should be noted that the resulting formula for mass does not contain any adaptable parameters. Apart from the size of the particle, it only uses known physical constants. And the result for e.g. the electron deviates from the measurement by less than 10^-5. I think that's something!

These are results which the quantum mechanical Higgs model cannot compete with in any way, as it provides NO results.

As a supplement, we will show a list of (still existing) particle properties that cannot (yet) be determined independently of QM.

Further info: ag-physics.org/rmass