

## T 25: Andere Gebiete der Theorie

Zeit: Freitag 14:00–14:45

Raum: 30.45: 101

T 25.1 Fr 14:00 30.45: 101

**Weltbild im 3. Jahrtausend, nach Vereinheitlichung aller Kräfte der Natur** — •CLAUS BIRKHOFF — Seydelstr. 7, D-10117 Berlin

Quantisierung der Raumzeit. Quantisierung der Allgemeinen Relativitätstheorie. Ursprung aller Kräfte der Natur. GUT. "Weltformel".

T 25.2 Fr 14:15 30.45: 101

**The Extended Particle Model - and the Origin of Mass** — •ALBRECHT GIESE — Taxusweg 15, 22605 Hamburg

Present-day physics is governed by two fundamental misconceptions:

1. Relativity is allegedly caused by the properties of space-time
2. Elementary particles are assumed to be point-like, having no internal structure.

By deviating from these assumptions we can correctly reconstruct the results of present-day physics from an adapted model; and in addition we are able to find answers to unsolved problems.

In the announced talk about particles we will show that the assumption of an extended elementary particle does not on the one hand conflict with experimental results, while on the other hand it yields the known properties of particles without resorting to QM and virtual particles. In addition, it explains the origin of mass by classical means and quantitatively correctly. This includes the relativistic increase in mass of objects in motion and energy-mass equivalence. Furthermore it explains unresolved problems such as Dark Matter and Dark Energy. The Landé factor, and hence the magnetic moment, can be classically determined with high precision without any use of QM, vacuum po-

larization, or similar devices.

For further information: [www.ag-physics.org](http://www.ag-physics.org)

T 25.3 Fr 14:30 30.45: 101

**All fundamental elementary particle masses can be calculated with high accuracy via a simple equation based on the fine structure constant alpha.** — •KARL OTTO GREULICH — Fritz Lipmann Institute Beutenbergstr.11 D 07745 Jena

A simple relationship between particle masses has so far obviously remained unnoticed or at least not become widely accepted. The muon, pion and kaon masses are almost exactly (1.5, 2 and 7 electron masses) / alpha, where alpha is the fine structure constant or coupling constant of quantum electrodynamics.. Based on this the equation

$$m / m_e = (3M + 1 + d) / \alpha$$

has been found to describe the masses of all fundamental elementary particles with an accuracy in the 1% range. Thereby M is a running number from 1 to 12 with an additional island of stability at M = 25 and 26. d is a correction term with the value 0.5 or + / - 1 depending on charm, beauty, strangeness or isospin of the particle. All but 6 particles masses (which have an error between 1 and 2%) , up to the beauty Lambda with a mass of 5624 GeV / c<sup>2</sup> are calculated with an accuracy of better than 1 %. This is the most accurate and comprehensive description of particle masses available so far.

Reference K.O. Greulich Calculator of the masses of all fundamental elementary particles with an accuracy of approx. 1% 2010 J Mod Phys 1, 300 - 302 [http://www.fli-leibniz.de/www\\_kog](http://www.fli-leibniz.de/www_kog) (then click the symbol Phi for physics)