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Fundamental Constants in Physics and their Time Dependence

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In the Standard Model of Particle Physics there are 28 fundamental constants. In the experiments these constants can be measured, but theoretically they are not understood. I will discuss these constants, which are mostly mass parameters. Astrophysical measurements indicate that the finestructure constant depends on time. Grand unification implies a time variation of the QCD scale. Thus the masses of the atomic nuclei and the magnetic moments of the nuclei will depend on time. I proposed an experiment, which is currently done by Prof. Haensch in Munich and his group. The first results indicate a time dependence of the QCD scale. I will discuss the theoretical implications.

Montag, 25. Jänner 2010, 17:30 Uhr
(ab 17:00 Uhr Kaffee)

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