



Sommerfeld Theory Colloquium

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On the Origin of CP-Symmetry and its Violation

CP plays a crucial role in quantum field theory and elementary particle physics. While C (charge conjugation) and P (parity) are strongly violated in weak interactions, CP-violation is quite small. Sizeable violations through non-perturbative effects in strong interactions are apparently absent (known as the strong CP-problem). In cosmological considerations CP-violation is an important ingredient for baryogenesis (a mechanism to explain the asymmetry of matter and anti-matter in our universe). What is the origin of CP-symmetry and its violation? Theoretical arguments suggest that CP is a (discrete) gauge symmetry. Examples of such symmetries have been identified in string theory. We present such examples and discuss phenomenological consequences.

Wednesday, 7 November 2018, 16:15h, Room A348/349, Theresienstr. 37/III