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Maas – Physical spectra and new physics

Tuesday 23 February 2016 18:40 (20 minutes)

Experimentally observable particles require a gauge-invariant description. In non-Abelian gauge theories this implies that only composite operators, and thus bound states, can be physical.

Though bound states are genuine non-perturbative objects, the Froehlich-Morcchio-Strocchi mechanism nonetheless provides a possibility to determine the masses of Higgs, W, and Z using perturbation theory.

After describing this mechanism, and its ramifications for the standard model, the situation for new physics models will be discussed. The implications for the 2-Higgs doublet models, grand-unified theories, and technicolor will be presented. Special attention will be paid to the question where a breakdown of this mechanism could occur.

Presenter: Prof. MAAS, Axel (University of Graz)

Session Classification: Contributed talks