Contribution ID: **53**   Type: **not specified**

Hadron properties using Dyson-Schwinger and Bethe-Salpeter equations

Thursday, 4 December 2014 15:05 (35 minutes)

The combination of Dyson-Schwinger and Bethe-Salpeter equations allows, in principle, for an *ab-initio* continuum-QCD study of hadrons and their properties. Glueballs, mesons, baryons, etc. are all treated in a unified framework. Moreover it has the advantage that that it gives access to all momentum regimes and all quark masses, connecting the deep infrared to perturbative QCD and light- and heavy-quark physics.

The major downside is, however, the necessity of truncationg both Dyson-Schwinger and Bethe-Salpeter equations to make the problem tractable. However, guided by symmetries such as Poincare invariance, chiral symmetry, etc. one can define a systematic procedure to successively incorporate interaction terms in the calculations. The purpose of the presentation is to discuss this procedure as well as to illustrate it with some selected results.

Primary author: Dr SANCHIS ALEPUZ, Hèlios (Justus-Liebig University Giessen)

Co-author: Dr WILLIAMS, Richard (Justus-Liebig University Giessen)

Presenter: Dr SANCHIS ALEPUZ, Hèlios (Justus-Liebig University Giessen)

Session Classification: Parallel 5: Strongly coupled gauge theories