Contribution ID: **86** Type: **Oral presentation**

Precision determination of α_s from lattice QCD

Tuesday 10 July 2018 12:30 (30 minutes)

The strong coupling α_s is one of the fundamental parameters of the Standard Model (SM). Its precise knowledge is of crucial importance to fully exploit the potential of the LHC and future experiments in testing the SM and constrain New Physics. However, an accurate determination of α_s, i.e. comfortably below the percent level, faces many difficulties. There are several determinations which do not reach the desired level of precision and those that do, often have to deal with systematics which are hard to quantify. Notorious examples are the uncertainties coming from missing high perturbative orders and the problem of non-perturbative corrections. In this talk I discuss how lattice field theory methods can elegantly solve these and other issues, and I will present the results of an accurate sub-percent determination of the strong coupling from first principles.

Primary author: Dr DALLA BRIDA, Mattia (Universita' di Milano-Bicocca)

Presenter: Dr DALLA BRIDA, Mattia (Universita' di Milano-Bicocca)

Session Classification: Parallel Section B Heavy Ion