Contribution ID: **173**   Type: **Poster**

Heavy-quark corner of the Columbia plot from the center-symmetric Curci-Ferrari model

We will present results for the heavy quark, i.e. top-right, corner of the Columbia plot. They were derived using a 1-loop Polyakov loop potential in the center-symmetric Landau gauge, supplemented by a minimal (1 parameter), phenomenological, Curci-Ferrari extension to the Faddeev-Popov terms, which we employ to account for the effect of Gribov copies. This model has been validated in the pure Yang-Mills case, which gives results matching lattice simulations. A further test of the model includes whether it can accurately predict the behavior of QCD with heavy quarks, which we now found to be the case. We will present these findings, that suggest that the center-symmetric Curci-Ferrari model allows access to IR QCD physics. We will also discuss the dependence of our results on the choice of renormalization scheme and scale, which we verified to be small as part of the new work.

Category

Theory

Collaboration (if applicable)

Author: MARI SURKAU, Tomas (CPHT - Ecole Polytechnique, IP Paris, CNRS)

Co-author: REINOSA, Urko (CPHT - Ecole Polytechnique - CNRS)

Presenter: MARI SURKAU, Tomas (CPHT - Ecole Polytechnique, IP Paris, CNRS)

Session Classification: Poster session 1

Track Classification: QCD phase diagram & critical point