Title: **Physical spectrum from confining propagators**

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The mechanism of confinement in Quantum Chromodynamics is still an open theoretical problem. One of the most important questions about confining theories is how they generate at low energies a physical spectrum out of confined elementary particles. We discuss this problem using analytical methods inspired by the physics of Gribov copies in gauge theories, keeping close contact with lattice simulations.

First we discuss what happens to quarks and gluons at very low energies, with the aid of recent lattice results: gluon and quark propagators present complex poles -- the so called i-particles -- in the infrared domain, signaling confinement. Then we briefly review how these lattice data may be combined with an analytical framework in order to shed light on the confiment issue for the pure Yang-Mills case and its glueball spectrum. Finally, inspired by these developments, a study is presented in a scalar toy model of i-particles -- excitations with complex masses -- showing concretely how interactions may produce physical propagating modes from the combination of these unphysical (confined) objects into composite states.