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The Hadronic Resonance Spectrum and QCD at Finite Temperature and Density¹

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The knowledge of the hadronic spectrum is still an open problem, which has phenomenological consequences in the study of heavy-ion collisions. In a study based on lattice QCD thermodynamics, we concluded that additional strange resonances are missing in the currently tabulated lists provided by the Particle Data Group (PDG). That study identified the ideal spectrum to be used as an input in thermal-model-based analyses. We then studied the effect of additional resonances on the freeze-out parameters of systems created in heavy-ion collisions. These parameters are obtained from a thermal fit of particle yields and net-particle fluctuations. In this talk I will review our results on the effect of the chosen hadronic resonance spectrum on several QCD observables at finite temperature and density.

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