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QCD thermodynamics and missing hadron states

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Equation of State and fluctuations of conserved charges in hot strongly interacting matter are being calculated with increasing accuracy in lattice QCD, and continuum results at physical quark masses become available. At sufficiently low temperature the thermodynamic quantities can be understood in terms of hadron resonance gas model that includes known hadrons and hadronic resonances from Particle Data Book. However, for some quantities it is necessary to include undiscovered hadronic resonances (missing states) that are, however, predicted by quark model and lattice QCD study of hadron spectrum. Thus, QCD thermodynamics can provide indications for the existence of yet undiscovered hadron states.