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### Thermal ground state in Quantum Yang-Mills theory

We explain the essentials of the structure of the thermal ground state in the deconfining phase of  $SU(2)$  Quantum Yang-Mills theory. Applications here discussed involve the evolution of the coupling constant, aspects of the loop expansion of thermodynamical quantities and the polarization tensor the massless mode as well as a derivation of the 3D Ising critical exponent for the correlation length based on an exact solution for conformal temperature-redshift scaling.

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