

# Cosmological implications of the QCD phase transition in the Early Universe

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Quantum Chromodynamics (QCD) theory predicts that at high temperatures quarks and gluons are in a state of asymptotic freedom, constituting with leptons and photons the primitive plasma present in the Early Universe. When the plasma temperature drops below a certain critical value  $T_c$ , consequence of the expansion of the Universe, quarks become confined into hadrons. This process is usually described as a phase transition whose order is still under debate. In this contribution we consider different models for the equation of state (EoS) of the QGP and hadronic phases and investigate the impact of these distinct modelling on the thermodynamical and cosmological parameters. In particular, we study the behaviour of the Hubble  $H$ , deceleration  $q$  and jerk  $j$  parameters during the phase transition and demonstrate that they are sensitive to the treatment of the EoS.

**Auteurs principaux:** M. SIMOES ADERALDO, Vinicius (Universidade Federal de Pelotas); GONCALVES, Victor (Universidade Federal de Pelotas)

**Orateur:** M. SIMOES ADERALDO, Vinicius (Universidade Federal de Pelotas)

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