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Parton-hadron dynamics in heavy-ion collisions

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The dynamics of partons and hadrons in relativistic nucleus-nucleus collisions is analyzed within the novel Parton-Hadron-String Dynamics (PHSD) transport approach, which is based on a dynamical quasiparticle model for partonic phase (DQPM) including a dynamical hadronization scheme. The PHSD model reproduces a large variety of observables from SPS to LHC energies, e.g. as quark-number scaling of elliptic flow, transverse mass and rapidity spectra of charged hadrons, dilepton spectra, direct photon spectra, collective flow coefficients etc., which are associated with the observation of a sQGP. The 'highlights' of the latest results will be presented and open questions/perspectives will be discussed.

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