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Flavoured aspects of the QCD thermodynamics

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We discuss recent progress in lattice QCD studies on various aspects involving strange and heavy quarks. Appropriate combinations of conserved net strange and net charm fluctuations and their correlations with other conserved charges provide evidence that in the hadronic phase so far unobserved hadrons contribute to the thermodynamics and need to be included in hadron resonance gas models.
In the strange sector this leads to significant reductions of the chemical freeze-out temperature of strange hadrons.
We have found that a description of the thermodynamics of open strange and open charm degrees of freedom in terms of an uncorrelated hadron gas is valid only up to temperatures close to the chiral crossover temperature. This suggests that in addition to light and strange hadrons also open charm hadrons start to dissolve already close to the chiral crossover.
Further indications that open charm mesons start to melt in the vicinity of Tc is obtained from an analysis of screening masses, while in the charmonium sector these screening masses show a behavior compatible with a sequential melting pattern.

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