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## Possible phase transition in accelerated system

Heavy ion collisions produce matter with extreme vorticity and acceleration, sparking strong theoretical and experimental interest. I will discuss theoretical results on the (acceleration-temperature) phase diagram for spin-1/2 particles, predicting a new phase transition below the Unruh temperature. This transition links to an effective black hole in an accelerated frame, namely, with the singularity of the lower Matsubara modes on the horizon and non-unitarity of the representations of the Poincaré group. Results of the PHSD model simulations of Au-Au collisions will also be presented, which predict early stage temperatures below the Unruh temperatures and support the hadronization mechanism based on the novel phase transition.

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