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Gluodynamics in accelerated frames using lattice simulation

Monday 27 October 2025 16:00 (15 minutes)

We investigate the properties of $SU(3)$ gluon plasma at high temperature under acceleration using lattice simulations in Rindler coordinate. Our results reveal a spatial crossover transition from confinement to deconfinement opposite to the direction of acceleration, consistent with the Tolman-Ehrenfest (TE) law. Using this law, we renormalize the Polyakov loop in Rindler space. Additionally, we observe that the transition width and peak diminish as acceleration increases.

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