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# Is holographic quark-gluon plasma homogeneous?

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The presence of Chern-Simons terms in holographic QCD is required by the global flavor anomaly structure. These Chern-Simons terms may give rise to a spatial instability at nonzero density, known as the Nakamura-Ooguri-Park instability. I demonstrate that this instability is unavoidable in a large class of bottom-up models of QCD anchored to lattice data, and extends to surprisingly high temperatures and low baryon number densities in the quark-gluon plasma phase. The precise range of the instability is however sensitive to the strange quark mass, which is not properly included in these models so far.

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