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## Anomalous enhancement of dilepton production due to diquark fluctuations in dense quark matter

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The high-statistics search for high baryon-density matter at relatively low temperature comes to be possible by the recent experiments using heavy-ion collision (HIC), which may realize the color superconductivity (CSC): Such experiments include the beam-energy scan program at RHIC, and HADES and NA61/SHINE collaborations as well as those to be performed in future experimental facilities such as FAIR, NICA and J-PARC-HI. In the present report, we calculate the effect of diquark correlations or diquark fluctuations, which persist even away from the critical temperature of CSC, on the dilepton production rate using the two-flavor NJL model. In the calculation, we consider the Aslamazov-Larkin, Maki-Thompson and Density of States terms due to diquark fluctuations, which are known to give rise to anomalous excess of electric conductivity in metals in the vicinity of the critical temperature of superconductivity. The results show that the dilepton production rate due to the diquark fluctuation is anomalously enhanced in the low energy region even at 1.5 times the critical temperature. We shall explain the physical mechanism of such production process and suggest that this enhancement would be detectable as the experimental signal for CSC in the HIC experiments.

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