

Heavy quark potential and jet quenching parameter in a rotating D-instanton background

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We get the dual gravity metric of the rotating nuclear matter by performing a standard Lorentz transformation on the static metric in the D-instanton background. Then, we study the effects of the angular velocity, the instanton density and the temperature on the heavy quark potential. It is shown that the angular velocity and the temperature promote dissociation of the quark pair, and the instanton density suppresses dissociation. Similarly, according to the result of jet quenching parameter, we found that the jet quenching parameter increases with the increase of angular velocity, instanton density and temperature, and the jet quenching parameter in the rotating D-instanton background is larger than that of N=4 SYM theory.

Primary author: 陈, 君霞 (华中师范大学)

Co-author: HOU, Defu (CCNU)

Presenters: HOU, Defu (CCNU); 陈, 君霞 (华中师范大学)

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