

Abstract

Recently it has been conjectured that $N = 6, U(N)_k \times U(N)_{-k}$ Chern-Simons theory is dual to M-theory on $AdS_4 \times S^7/Z_k$. By studying one-loop correction to the M-theory effective action, we calculate the correction to the entropy of thermal field theory at strong coupling. For large k level, we have also found the α' correction to the entropy from the string correction of the type IIA effective action. The structure of these two corrections at strong 't Hooft coupling are different.