

# 1+1 large $N_c$ QCD and its holographic dual

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Large  $N_c$  QCD in 1+3 dimensional spacetime can be converted into its holographic dual model via gauge/gravity correspondence (called the Sakai-Sugimoto model or holographic QCD)[1]. This QCD-based model well reproduces the mass spectrum of mesons, and also explains many properties of hadron phenomenology such as anomalies, the vector meson dominance, and the Skryme model. In this paper, we consider large  $N_c$  QCD in 1+1 dimensional spacetime (called the 't Hooft model) and investigate its holographic dual. As an advantage of 1+1 large  $N_c$  QCD, we can analytically calculate the meson mass spectrum directly from the QCD Lagrangian. Furthermore, a holographic dual model of 1+1 large  $N_c$  QCD can be easily constructed by changing the dimension of D-branes of the Sakai-Sugimoto model in 1+3 QCD case. We will also compare 1+1 large  $N_c$  QCD and its holographic dual in terms of confinement and chiral symmetry breaking. [1] T.Sakai and S.Sugimoto, Prog. Theor. Phys. 113 (2005) 843; 114 (2005) 1083.

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