

# Holographic simulations of the quantum superconductivity

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## Abstract

We demonstrate that the quantum superconductivity (QS) is thermodynamically realized in the presence of a cosmological constant and that the interaction between the QS and the background field is thermodynamically induced. This results in a potential for the holographic superconductivity in the presence of a cosmological constant. We also show that in the presence of a cosmological constant, the QS is not simply a thermodynamic instanton. We show that the QS is a QS in the absence of a cosmological constant. The QS is a QS in the presence of a cosmological constant.

## 1 Introduction

The QS (QED) theory analyzes the existence of a unfolded

formulation of QED in [1]. In this article, we will see that the presence of a cosmological constant in the QED theory is thermodynamically induced. In this article, we will also show that the QED theory could be described by a cosmological constant [2]. The central idea of this article will be a study of the QED theory. In the course of the article, we shall also find that the QED theory could have a non-perturbative QED. Finally, we shall show that the QED theory could be a thermodynamically induced theory.

The idea of the QED theory is to find a 1/2-dimensional supersymmetric theory [3]. It has been shown [4] that the QED theory can be described by a cosmological constant. In fact, SUSY (symplectic) supersymmetric theories are the basis of the standard QED theory. For example, the QED theory of

the superconducting Yang-Mills theory of material science (the Yang-Mills superconducting theory) is described by a cosmological constant [5]. In this article, we will see that in the presence of a cosmological constant, QED also has a non-perturbative QED [1]. In this article, we will also show that the QED theory could have a non-perturbative QED. In fact, the QED theory of the superconducting Yang-Mills theory of material sciences (the Yang-Mills superconducting theory) is described by a cosmological constant [6].

## 2 Cosmological constant

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[illegible]

[illegible]

[illegible]

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