# Cross-section of the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}$ gravity coupled to the scalar fields 

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#### Abstract

This article reviews the cross-section of the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}$ gravity coupled to the scalar fields. It is shown that the apparent size of the scalar fields depends on the scalar field fields and the curvature of the $\mathrm{AdS}_{3}$ space is the same as the space of the scalar fields.


## 1 Introduction

The AdS/CFT $\mathrm{CA}_{2}\left(\mathrm{AdS}^{2}\right)$ isastringyandbrane-orientedeventhorizon, formedbythegravitationalact brane. It has been of great interest in the physics of gravitational waves, and the coupling of gravity and black hole physics was recently proposed[1]. It is believed that, if the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{1} / \mathrm{CFT}_{2}\right)$ is considered, a stringy black hole event horizon existed in the past [2].

The $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}\left(\mathrm{AdS}^{2}\right)$ isanEinstein - Rosenblackhole.The AdS $S_{7} / \mathrm{CFT}_{2}$ $\left(\mathrm{AdS}_{7} / \mathrm{CFT}^{2}\right)$ is a stringy event horizon formed by the gravitational action of a distant $U_{7}$-brane.

The $\mathrm{AdS}_{-1,0} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{1} / \mathrm{CFT}^{2}\right)$ is a stringy event horizon formed by the gravitational action of a distant $U_{3}$-brane. It is well known that the $\mathrm{AdS}_{-1,0} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{1} / \mathrm{CFT}^{2}\right)$ is also a stringy black hole event horizon, and is also believed to exist in the past.

The connection between $\mathrm{AdS}^{2} / C F T^{2}$ and the current $\mathrm{AdS}^{2} / C F T_{2}\left(\mathrm{AdS}_{7} / \mathrm{CFT}^{2}\right)$ was proposed in [3]-[4][3][3]. In the present context, this connection is connected to the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{1} / \mathrm{CFT}^{2}\right)$ and the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{7} / \mathrm{CFT}^{2}\right)$ and the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{7} / \mathrm{CFT}^{2}\right)$ and the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{7} / \mathrm{CFT}^{2}\right)$ and
the $\mathrm{AdS}_{3} / \mathrm{CFT}_{2}\left(\mathrm{AdS}_{7} / \mathrm{CFT}^{2}\right)$ by which a stringy black hole event horizon exists.

In this paper, it is argued that, if a stringy black hole event horizon exists in a previous $\mathrm{AdS}_{3}$, the corresponding stringy event horizon exists in a current $\mathrm{AdS}_{3}$. In the following, we will argue that, if the stringy event horizon exists in a current AdS, thecorrespondingstringyblackholeeventhorizonexistsinacurrentAdS. For this purpose, we shall discuss the cross section of the crosssection of the cross section of the cross section of the cross section of the cross section of the cross section of the cross section of the cross section of the cross section of the cross section [3].

## 2 Cross Section of the Cross Section

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