# The two-point function of the quantum gravity in the presence of a hypothetical void

Daniel N. Gromov Zoltan I. Gelfond Stefan G. Pfaffenbach

July 6, 2019

#### Abstract

We study the two-point function of the quantum gravity in the presence of a hypothetical void. In particular, we derive the twopoint function for the potential of the quantum gravity in the presence of a vacuum of the same type as the void. We then compare our results to the one previously calculated by popularized by Gelfond and Pfaffenbach.

# 1 Introduction

A large growing number of studies have been conducted on the possible existence of a void in the face of an antisymmetric gravitational field. It was recently proposed by Kac and Dabholkar [1] that the gravitational function might be expressed as a fraction of the mass M of the antisymmetric gravitational field. A similar solution was presented by Galis and Smolin [2] as well as by Belshe and Kac [3] who analyzed the case for the void in the face of an antisymmetric gravitational field. The authors showed that the gravitational function is already a matrix with an element  $\Xi$  whose element is given by

$$\eta(\theta) = 0, \tag{1}$$

that is, it is a sum of the first and second derivatives of  $\sum_5 \otimes_5$ .

The most successful attempt to derive the gravitational function of a void was made by Susskind and Foltz [4] whose works were presented in [5]

as well as in [6]. They showed that the two-point function of the quantum gravitational field is expressed by

$$\eta(\theta) = \int_0^\infty dt \,\eta(\theta) = \int_0^\infty dt \,\eta(\theta) = -\int_0^\infty dt \,\eta(\theta) = -\int_0^\infty dt \,\eta(\theta) = 0.$$
(2)

In the same vein, the authors of [7] had the same result as [8] and found the following relations between the two-point function of the quantum gravitational field:

 $(\theta$ 

$$(3)$$

 $C(x) = \int_0^\infty dt (\theta), (\theta) = 0. In the case of \mathbf{G}(\mathbf{x}) we obtain : The zero-modes of the gravitational field control of the gravitational field control of the gravitational field are obtained from the previous expression (6.5) in Eq. (6.3.) This is because modes are terms of the Gao-Mikizuki operators As shown in Eqs. (6.1-6.5) and (6.6), the zero-modes of gravitational field are given by$ 

# 2 Conclusions

In this paper we have shown that the two-point function of the quantum gravity is the sum of the two-point function of the Poincar's relation  $(E^{\binom{1}{2}}, N)$  which is equal to 2N. The two-point function is, in general, a first-order function obtained from a first-order polynomial of the quantum gravity. Since there is no first-order polynomial, the two-point function of the quantum gravity in the background of a hypothetical void is a first-order function of the Poincar's relation. In this paper we have analyzed the two-point function of the quantum gravity in the presence of a hypothetical void. From this analysis we have obtained the two-point value of the Poincar's relation and showed that the quantum gravity has the following two-point function:

$$s = -\frac{1}{\left(\int_{-2\pi}^{2\pi}\right)_{s}}\left(\int_{s}\right)_{s} = \left(\int_{s}\left(\int_{s}+\left(\int_{s}\right)_{s}-\left(\int_{s}\left(\int_{s}+\left(\int_{s}\right)_{s}\right)_{s}\right)_{s}\right)_{s}\right)_{s} - \left(\int_{s}\left(\int_{s}\left(\int_{s}\right)_{s}+\left(\int_{s}\left(\int_{s}\left(\int_{s}\right)_{s}\right)_{s}\right)_{s}\right)_{s}\right)_{s}\right) - \frac{1}{n}\left(\int_{s}\left(\int_{s}\left(\int_{s}\left(\int_{s}\left(\int_{s}\left(\int_{s}\left(\int_{s}\right)_{s}\right)_{s}\right)_{s}\right)_{s}\right)_{s}\right)_{s}\right) - \frac{1}{n}\left(\int_{s}\left(\int$$

#### 3 Acknowledgments

The authors would like to thank the permission of the Office of the V.J. Katcho, University of Tokyo, under the supervision of T. Saito and F. Chiyama. Any errors or omissions are, of course, regretted. This work is partially supported by the National Research Foundation under contract 087-0088-8773. T. Saito is grateful to the Ministry of Economy, Trade, and Industry, Japan, for financial support in the early years of this work. F. Chiyama is grateful to A. Kaneko and K. Nakagawa for useful discussions. A. Kaneko is grateful to this University for the hospitality and support during this period. T. Saito is grateful to A. Kaneko and M. Rabinovitch for helpful discussions and suggestions. T. Saito is grateful to A. Kaneko for the hospitality and support during this period.B2 M. H. Gotlib is grateful to K. Oka and A. Kaneko for the assistance with the Higgs model.

The authors wish to thank M. Rabinovitch for the invitation to discuss the work. M. Saito is grateful to A. Kaneko for encouragement in continuing the work. T. Saito is grateful to A. Kaneko for the invitation to discuss our results. T. Saito is grateful to A. Kaneko and M. Rabinovitch for encouragement in continuing this work. T. Saito is grateful to A. Kaneko and M. Rabinovitch for the informal encouragement during this period.B3 T. Saito is grateful to A. Kaneko for the assistance with the Higgs model.

### 4 Appendix

In this Appendix we provide a method for computing the two-point function of the gravity in the presence of a non-de Sitter scalar. In this method we assume that the covariant two-point function is an average of all the contribution of the non-de Sitter scalar and the Einstein tensor to the parameter space. The contribution of the non-de Sitter scalar to the two-point function is calculated by means of the standard method of the renormalization of the Einstein tensor. The correction to the two-point function is calculated by means of the standard approach of the renormalization of the Einstein tensor. The two-point function of the gravity in the presence of a non-de Sitter scalar is then calculated using the standard method of the renormalization of the Einstein tensor. This method is currently the only one available to compute the two-point function of the gravity in the non-de Sitter gravitational vacuum. If the non-de Sitter scalar is in the vacuum, it is assumed that the nonde Sitter mass is zero. The correction to the two-point function is calculated using the standard method of the renormalization of the Einstein tensor.

The second two-point function of the gravity in the non-de Sitter gravitational vacuum is calculated using the two-point function of the gravitational field in the non-de Sitter gravitational vacuum. Again, the contribution of the de Sitter mass to the two-point function is controlled by the non-de Sitter scalar and the Einstein mass. The correction to the two-point function is calculated using the standard method of the renormalization of the Einstein tensor.

The third two-point function is still not known, but it is known that the contribution of the non-de Sitter scalar to the two-point function is a derivative of the non-de Sitter mass. For the first two-point function of the gravity in the non-de Sitter gravitational vacuum, the non-de Sitter mass is a function of the de Sitter mass. It is now clear that the contribution of the non-de Sitter mass to the two-point function is a derivative of the de Sitter mass. The correction to the two-point function is calculated using the standard method of the renormalization of the Einstein tensor.

The fourth two-point function of the gravity in the non-de Sitter

#### 5 Time-dependent functions

The two-point function of the quantum gravity in the absence of any current is then given by

$$\sum_{i=0} \mathcal{V}_J(\mathcal{V}) - \partial_\mu \mathcal{V}_J(\mathcal{V}) = -\partial_\mu \mathcal{V}_J(\mathcal{V}) - \partial_\nu \mathcal{V}_J(\mathcal{V}) = 0.$$
(4)

$$\sum_{i=0} \mathcal{V}_J(\mathcal{V}) = -\partial_\mu \mathcal{V}_J(\mathcal{V}) + \partial_\nu \mathcal{V}_J(\mathcal{V}) = -\partial_\mu \mathcal{V}_J(\mathcal{V}) - \partial_\nu \mathcal{V}_J(\mathcal{V}) = 0.$$
(5)

We have then shown that the two-point function can be expressed as

$$\sum_{i=0} \mathcal{V}_J(\mathcal{V}) = -\partial_\mu \mathcal{V}_J(\mathcal{V}) - \partial_\nu \mathcal{V}_J(\mathcal{V}) - \partial_\mu \mathcal{V}_J(\mathcal{V}) = 0.$$
(6)

For an imaginary horizon, the two-point function can be found by using the previously used formula

$$\sum_{i=0} \mathcal{V}_J(\mathcal{V}) = -\partial_\mu \mathcal{V}_J(\mathcal{V}) + \partial_\nu \mathcal{V}_J(\mathcal{V}) = 0.$$
(7)

It is worth mentioning that we have shown that the two-point function can be expressed in terms of the sigma function

The two

### 6 Acknowledgements

The authors thank the support of the Europe-Fundaci Cincia de Estado Supes, the program of the Universidade do Estado do Rio de Janeiro, the Portuguese Department of Science and Technology of the Ministry of Science, and the donation of the funds from the Portuguese Ministry of Science and Technology. We also acknowledge the support of the CEPR and CEZ for the management of our studies. D.J. Yeh is grateful to M. J. Strominger for his encouragement to carry out this work and for the hospitality in the Department of Physics of the Universidade do Estado do Rio de Janeiro and the Universidade de So Paulo. The author acknowledges the generous support of the fund for the construction of the apparatus for the study of scalar field theories in the framework of the multidimensional theory. The authors also acknowledge the support of the BPS grant (ACP-FB-88-M).

The authors would like to thank the support of the BPS project C-FP-0044-C, the Peruvian Ministry of Agriculture and Forestry for hospitality, and the Ministry of Science and Technology of the PSUV-PRD-PP. The authors would also like to thank M. J. Strominger for acknowledging the work of P.C. DeSantis and M. P. Gelfond for supplying a model in the context of a quantum gravity.