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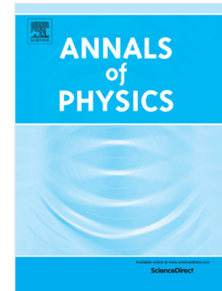
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Virtual Black Holes in a Third Quantized Formalism

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Abstract

In this paper, we will analyse virtual black holes using the third quantization formalism. As the virtual black hole model depends critically on the assumption that the quantum fluctuations dominate the geometry of spacetime at Planck scale, we will analyse the quantum fluctuations for a black hole using third quantization. We will demonstrate that these quantum fluctuations depend on the factor ordering chosen. So, we will show that only certain values of the factor ordering parameter are consistent with virtual black holes model of spacetime foam.

Keywords : Third quantization, Black hole, Uncertainty relation, Operator ordering

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