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# THE GIBBONS-HAWKING RADIATION OF GRAVITONS IN THE POINCARÉ AND STATIC PATCHES OF DE SITTER SPACETIME

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We discuss the quantization of linearized gravity in the background de Sitter spacetime using a gauge-invariant formalism to write the perturbed gravitational field in the static patch. This field is quantized after fixing the gauge completely. The response rate of this field to monochromatic multipole sources is then computed in the thermal equilibrium state with the well-known Gibbons-Hawking temperature. We compare this response rate with the one obtained in the Bunch-Davies-like vacuum state defined in the Poincaré patch. These response rates are found to be the same as expected. This agreement serves as a verification of the infrared finite graviton two-point function in the static patch of de Sitter spacetime found previously.