

Vacuum distribution and norm of sums of gaussian monotone operators

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Abstract

We provide a recurrence formula to compute atoms and weights for the (discrete) vacuum distribution of sums of creation and annihilation operators $s_i := a_i + a_i^\dagger$ in monotone Fock space. The result is obtained in a direct way, without using monotone convolution, and exploiting some properties of palindromic polynomials. Moreover, we show the law above is a basic measure on the spectrum of the unital C^* -algebra generated by $\sum_{i=1}^n s_i$. This allows us to achieve the norm for any finite sum of gaussian operators as the right endpoint of the support of its vacuum distribution. This is a joint work with Y.G. Lu.