

Spectral Theory and Applications

Harmonic oscillator and its inverse

JOACHIM TOFT

Linnæus University, Växjö, Sweden
joachim.toft@lnu.se

Abstract We study the inverse of the harmonic oscillator. In particular, we consider the Weyl symbol to this inverse. We establish precise expressions and convenient estimates. We also explain how such estimates can be used to ensure that this operator image analytical and super analytical functions to functions of the same class. We also show how our results lead to estimates of certain special functions which, to our knowledge, seems to be unknown until now. Finally we explain some results on mapping properties of radial symmetric elements under the Bargmann transform, deduced during the investigations of the harmonic oscillator.

Bibliography

- [1] M. Cappiello, L. Rodino, J. Toft.
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