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Short title: The discrete Fourier transform and the quantum-mechanical oscillator in a finite-dimensional Hilbert space.

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Review text:

Quantized linear harmonic oscillator is considered in a truncated, finite-dimensional matrix form restricted by the requirement of consistency of the Heisenberg equations of motion under the discrete version of Fourier transformation. In this approach the authors are able to display the explicit numerical matrix form of position, momentum and number operators in dimensions $n=3$, $n=4$ and $n=5$.