

# Minimax Isometry Method

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A compressive sensing approach for the Matsubara summation of many-body perturbation theory is presented. By constructing low-dimensional, almost isometric subspaces of the Hilbert space we obtain optimum imaginary time and frequency grids that allow for extreme data compression of fermionic and bosonic functions in a wide temperature regime. The method is applied to a low-scaling algorithm[1] of the random phase[2] and GW approximation[3, 4] of the grand potential for insulating and metallic compounds.

## References

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