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Thermodynamic properties of two electrons quantum dot with Harmonic interaction

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***Highlights (for review)**

Research Highlights

- The thermodynamic properties exhibited by a parabolic one-dimensional quantum dot in the presence of a harmonic interaction is studied.
- The behavior of these properties as a function of the relevant parameters for two electrons system has been analysed.
- It is shown that this approach has limitations in the applicability regarding to the quantum number N_{max} and the separation of electrons inside a QD.