Calculation the energy of four electron system have (Z=10-12)

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\textbf{Abstract} : The aim from this research calculate the total energy and correlation energy of some ions have four as (Ne\textsuperscript{16}, Na\textsuperscript{17} and Mg\textsuperscript{18}) which have (Z=10-12) using Hartree - Fock approximation.

\textbf{Keywords} : Hartree-Fock wave function – Hamiltonian operator correlation energy – four electron system.


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