

# Cooper quartet correlations in infinite symmetric nuclear matter

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In this work, we have studied the quartet correlations in the cold infinite symmetric nuclear matter. The hierarchical structure of in-medium cluster formations has been investigated. We have extended the Bardeen-Cooper-Schrieffer-type variational wave function to the systems also with quartet correlations, and discussed how various physical properties will be modified by the quartet correlations at thermodynamic limit. Our work would be useful for further understanding of exotic matter, and the calculations of different kinds of the equations of states in realistic systems.

## Presentation type

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