The Stability of Icosahedral Cluster and the Range of Interaction Potential

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Abstract: The relation between the stability of icosahedral clusters and the range of interaction potential is discussed. We found that the stability of icosahedral clusters may decrease with decreasing range of interaction potential. A simple formula about the critical number of icosahedral clusters and the range of interaction potential ($M_c^{1/3}=A_1+A_2 r_{eff}^2$) was proposed. The calculation of the stability of icosahedral fullerence molecular clusters shows that our idea is right.

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