



Influence of the electrons on the stability of one-dimensional chains of metals

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The physical model describing the influence of the electronic subsystem on the properties of one-dimensional chains of metal is presented. It is shown that depending on an interaction potential between atoms in one-dimensional system formation of chains of various length is possible. In case the characteristic depth of the potential well of the interatomic interaction does not exceed a certain magnitude, the chains in 1D system are formed with length of several angstroms, while the increase the depth of the well also leads to the possibility of formation of metal chains of greater length.

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