

## Modelling of Static and Dynamic Processes of Nanoparticles Interaction

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The problem of dynamic and static of the nanoparticles interaction is considered. Object of research are single nanoparticles and nanoparticles systems, making composites. The methods of molecular dynamics are used. The numerical investigation allowed to cover the fundamental mechanisms of NP interaction and to ascertain the basic parameters, defining the conditions of stability NP. In particular, at NP-surface interaction processes nanoparticles can be shattered or dive inside of a material, depending on its drop energy of move, temperature and proportion between ultimate strengths of a material and particle. Depending on thickness of a material nanoparticle can as remain inside a material or pass it through. At low-level energy of move the particle is simple adheres to a surface of a material. At shock of particle at bevel way to a surface it can pull out a slice of a material of a surface, which one can fly away. At interaction nanoparticles among themselves the processes of agglomerate formation, formation of larger particles at merge of particles of the smaller size, absorption by large particles of the smaller ones, dispersion of particles on separate atoms are observed.

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