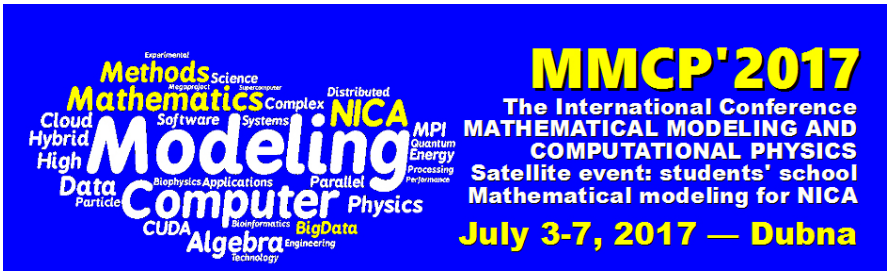

Contribution ID: **154** Type: **not specified**

MODELING THERMAL EFFECTS IN METALS IRRADIATED BY COPPER NANOCLUSTERS

Tuesday, 4 July 2017 13:30 (15 minutes)

One of the promising and important areas in condensed matter physics is the study of the interaction of nanoclusters with various metallic targets [1]. When nanoclusters interact with a metal target in a small volume, there is a huge energy release per unit volume and this leads to structural changes. The origin of the structural changes can be a consequence of thermal processes or elastic interactions (repulsion of target atoms). In experimental studies, one can only see the effect of structural changes in targets when irradiated with nanoclusters, and the application of mathematical modeling techniques allows one to "see" the entire cycle of the target irradiation process with nanoclusters.
In this paper we investigate thermal processes in metals irradiated with nanoclusters by the molecular dynamics method and within the thermal speak model [2, 3]. In the framework of the molecular dynamics method, the wave effects of heat transfer are obtained, what is not observed when the thermal peak model is used. The results of simulation of the structural changes in irradiated targets of different sizes are also obtained depending on the energy of nanoclusters. When processing results, the fractal analysis method [4] is used.
The work was financially supported by the RFBR grant No. 17-01-00661-a and partially supported by a grant of the Plenipotentiary Representative of the Republic of Bulgaria at the JINR.

Short biography note

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Session Classification: Mathematical methods and application software for modeling complex systems and engineering (II)