

## COMPUTER SYSTEM TO SIMULATE NLW DEPLOYMENT

**M.V. Sinitsyn, V.V. Leonov, V.V. Selivanov**

Bauman Moscow State Technical University,  
105005, Moscow, 2<sup>nd</sup> Baumanskaya, 5, Russia

Today the worried tendency of increase of terrorist attacks with numerous victims still remains. Again, there are a lot of examples of mass disorders. In any particular case somebody must take a decision to deploy some weapons and then he is responsible for the variant chosen. In most cases the well-known weapon types are selected. The well-known weapons are often not optimal concerning the situation, but traditional, and the only reason to deploy them is their simplicity to use and simplicity to understand, how they work. Our main task is to decrease the opinions, that non-lethal-weapons are something unreliable, as the resulted effects are complicated and unpredictable. The solution of the problem is the development of the computer system to estimate the results and consequences and, thus, to support the decision making on the base of the results of computer simulation.

The paper presents the computer system to simulate the deployment of the specific NLW type with the follow-on analysis of its efficiency. The main goal of the computer system is the simulation and visualization of the development for the different scenarios of anti-terrorist operations and operations to suppress mass disorders taking into account the “human factor”. It will help to produce the optimal strategy of deployment and optimal characteristics of the NLW specimen.

Main attention is paid to the investigation of impact from non-lethal weapons and estimation of applicability of any NLW type concerning the possible scenarios. The paper considers the capabilities of adequate simulation of various effects on humans with different level of detailed elaboration. The paper also presents the comprehensive object-oriented model of the computer system and its hard and software architecture.

As an example the paper discusses the solution of the problem on selection of optimal characteristics of kinetic NLW (rubber bullets) depending the particular situation. The presented system is not only the powerful tool to estimate, analyze and make decisions, but makes possible to systematize and integrate the available knowledge of development and deployment domain.

**Keywords:** comprehensive simulation, NLW deployment, analysis and decision making.