Modelling of material elastoplastic behavior under impact loading

© T.A. Butina, V.M. Dubrovin

Bauman Moscow State Technical University, Moscow, 105005, Russia

The article describes a suggested calculation model of elastoplastic behavior of materials under intense loading. Complex stress-strain state rises in structural elements under the influence of intense transient loads. The shock wave, moving along the material, causes its heating due to the mutual transfer of mechanical energy into heat which arises due to the large deformation rates, which are caused by impact loading. Processes that are affected by the rate of deformation are still not well studied experimentally. Changing of the material properties during deformation affects in the result on the behavior of the whole structure, its performance. The tasks associated with the plastic behavior of materials are of great interest. In this work we consider stress distribution in a two-layer sphere.

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Butina T.A. (b. 1950) graduated from the Faculty of Management and Applied Mathematics of the Moscow Institute of Physics and Technology in 1974. Ph.D., Assoc. Professor of the Computational Mathematics and Mathematical Physics Department of Bauman Moscow State Technical University. A specialist in the field of strength and stability of deformable systems. e-mail: butinata@mail.ru

Dubrovin V.M. (b. 1934) graduated from the Faculty of Mathematics and Mechanics of the Saratov State University in 1958. Ph.D., Assoc. Professor of the Computational Mathematics and Mathematical Physics and of the Higher Mathematics Departments of Bauman Moscow State Technical University. Research interests: dynamics, strength and stability of deformable systems; creep of structural materials. He is the author of five inventions. e-mail: vmdubrovinvm1934@ mail.ru