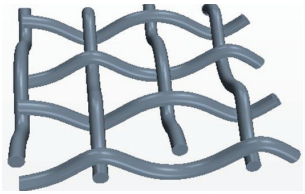
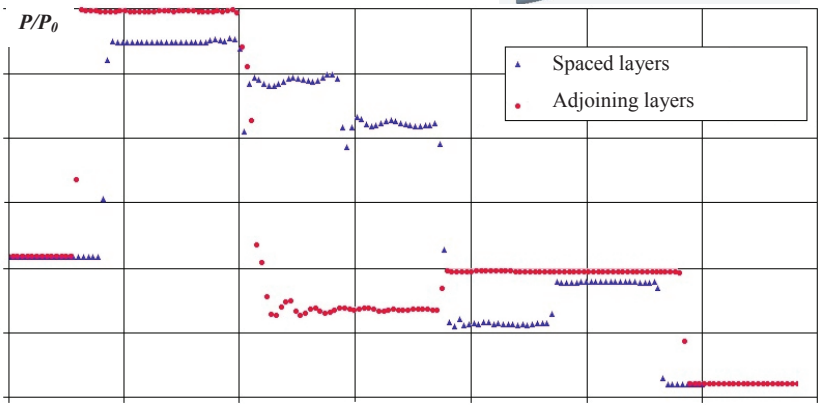
Research (What is it about?)	**Blast wave interaction with mesh grids**
UNN authors	*Glazova E.G., Kochetkov A.V., Krylov S.V., Turygina I.A.*
We find (The result)	The passage of a blast wave through single-layer and multilayer mesh grids is investigated numerically. The parameters of the transmitted and reflected shock waves has been found depending on the intensity of the incident wave, the number of layers in the package, the distance between the ***spaced layers*** of the package.
Abstract	The interaction of blast waves with deformable permaeable multilayer barriers has been investigated earlier for the case of multilayer adjoining grids. We consider the general system of spaced multilayer grids. The deformation of permaeable elements is described by the equations of dynamics of two interpenetrating continuums one of them is the deformable skeleton of cellular medium and the second is porous gas. The significant displacements and deformations of cellular medium and strong blast waves are considered. The modified Godunov scheme on Euler-Lagrange movable nets is used for the numerical solution of the above equations. For the contact forces determination the original algorithm to solve the problem of movable porosity jump disintegration has been developed. It is shown that even the high porous barriers significantly reduce the amplitude of transmitted waves. The efficiency of blast wave damping is higher for the spaced layer package. The parameters of shock waves at explosion of a cylindrical charge of finite length and wave impact on permeable deformable cylindrical package of woven grids have been obtained. Numerical results are in good accordance with known experimental data on the parameters of passage waves through the package of grids and residual shape of deformable elastoplastic package of grids.

Representative articles 2016-2017, quartiles	1. *Glazova E.G., Kochetkov A.V., Krylov S.V., Turygina I.A.* Numerical modeling of shock waves interaction with deformable permaeable multilayers barriers of woven grids Problemy prochnosti i plastichnosti. **78**(1), 81-91 (2016).	–
	Q-index (Qi) of the result	**0**

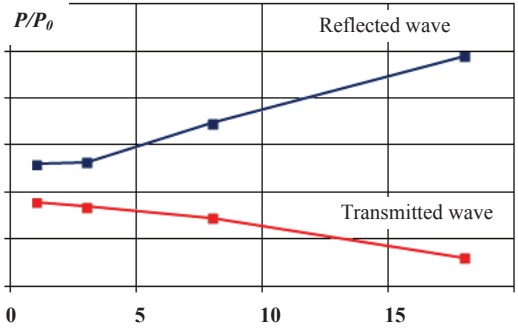
In collaboration	–

One layer of woven metal grid





Full pressure in dependence of coordinate for three-layer package of grids
(t=20 ms, porosity 0.64, space 20 mm)



The dependence of blast wave amplitude on the number of layers in package

The compression wave in cylindrical package of woven grids