Theoretical researches of hydrodynamics at underwater explosion of the dot source

© N.I. Sidnyaev[1]

[1] Bauman Moscow State Technical University, Moscow, 105005, Russia

The results of research related to the study of changes of water density at low temperatures are presented. Heat and mass transfer in the conditions of thermal convection under the influence of buoyancy in the absence of concentration gradients are studied. The causes of direction changes of the buoyancy are revealed. Two-dimensional velocity profiles are defined and inversion of convection due to the extremum of density is observed. Water density dependence on temperature is received.

Keywords**:** *heat-mass transfer, thermal convection, stratification of water, buoyancy, density, turbulent flow.*

Sidnyaev N.I. (b. 1955) graduated from Bauman Moscow Higher Technical School in 1981. Dr.Sci. (Eng.), Professor, Head of the Higher Mathematics Department of Bauman Moscow State Technical University. Author of about 200 publications in the field of applied mathematics and mechanics. Sphere of scientific interests: numerical methods, mechanics, non-stationary processes, differential equations. e-mail: sidnyaev@yandex.ru