

Mathematical Model of the Air Pollution

Davitashvili T., Gordeziani D.

I. Vekua Institute of Applied Mathematics of Tbilisi State University

tedav@viam.hepi.edu.ge

A regional mathematical model of transporting and dispersion of the atmosphere admixture under non local boundary conditions is discussed in this article. The new three dimensional mathematical model of the air pollution with non local boundary conditions is given. In case of two- dimensional mathematical model of the air pollution the existence and uniqueness of the regular solution of the problem is proved.

A regional zonally averaged mathematical model of the air pollution of the Georgian territory is discussed too. The mathematical model is based on the solution of primitive equations under non local boundary conditions with numerical methods. As numerical calculations shows as that in case of classical Boundary conditions, in the vicinity of boundary unreal increase of concentration values took place, which was not observed in case of non local boundary conditions.