Abstract

Application of the net method to the solution of a problem for a parabolic type linear, loaded differential equation is investigated. The difference problem approximating the initial problem is constructed, and the method of its solution is given. The validity of the maximum principle from which the uniqueness of the solution of the difference problem follows, is proved by fulfilling some conditions. The comparison theorem by means of which the convergence of the solution of the difference problem to the initial value problem is established, is proved simultaneously. The convergence rate of the difference problem is determined.