

## **Abstract**

In the present work there is considered one non-local in time initial boundary value problem for one non-linear nonstationary, parabolic, equation, originated from the mathematical modelling of certain bio-chemical process. In the above mentioned problem the linear member is a coercive operator and nonlinear one is monotone bounded operator. Non-local in time conditions are given in different forms (e.g. in integral form). There are investigated the existence and uniqueness of solution for stated problems. To solve these problems some iteration processes are constructed. Some a priori estimation is obtained and convergence of the iteration process is proved. In certain assumptions positiveness of solution is demonstrated. Theoretical researches are improved by numerical experiments on computer.