1164-35-14 **Thuy T. Le*** (tle55@uncc.edu) and **Loc H. Nguyen**. *Reconstructing the initial condition of quasi-linear parabolic equations from lateral Cauchy data.*

We propose a new numerical method to solve the problem of reconstructing the initial condition of a quasi-linear parabolic equation from the measurements of both Dirichlet and Neumann data on the boundary of a bounded domain. Although this problem is highly nonlinear, we do not require an initial guess of the true solution. The key in our method is the derivation of a boundary value problem for a system of coupled quasilinear elliptic equations whose solution is the vector function of the spatially dependent Fourier coefficients of the solution to the governing parabolic equation. We solve this problem by an iterative method. The global convergence of the system is rigorously established using a Carleman estimate. Numerical examples are presented. (Received December 13, 2020)