

A new regularization method for a non-linear parameter identification problem

Samprita Das Roy¹ M. Thamban Nair²

We consider the identification of a parameter on a 'part' of its domain, in a quasilinear elliptic Neumann boundary value problem, when the solution of the boundary value problem is specified only on a part of the boundary. This problem being ill-posed, we attempt to find a stable approximate solution. In order to do that, we use a new regularization method on a linear ill-posed operator equation which is obtained by reformulating the original non-linear inverse problem. In this talk the above regularization method and some related error analysis will be presented.

¹IIT Madras, Department of Mathematics, Chennai- 600036, India
samprita.dasroy@gmail.com

²IIT Madras, Department of Mathematics, Chennai- 600036, India
mtnair@iitm.ac.in