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Nathan Bush* (ncb2494@rit.edu), **Akhtar A Khan**, **Fabio Raciti** and **Baasansuren Jadamba**. *Identification of a Variable Parameter in Fourth-Order Partial Differential Equations by an Equation Error Approach.*

The method of equation error is employed to identify a variable parameter in the fourth-order partial differential equations. A smooth regularization is used to identify smooth parameters and the BV-seminorm regularization is used to identify discontinuous coefficients. Existence and convergence results are given for the equation error approach. Finite element based numerical experiments show the effective of the considered approach. The effect of data smoothing is shown for the noisy data. (Received September 25, 2012)