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Alexandra Smirnova (asmirnova@gsu.edu), **Hui Liu*** (hliu34@uncc.edu) and **Linda deCamp** (ldecamp1@student.gsu.edu). *Inverse Problems and Ebola Virus Disease.*

Parameter estimation problems in ordinary and partial differential equations constitute a large class of models described by ill-posed operator equations. A considerable number of such problems come from epidemiology and infectious disease modeling, with Ebola Virus Disease (EVD) being an important example. While it is not difficult to find a solution of an SEIJCRC ODE constrained least squares problem, this problem is extremely unstable and a number of different parameter combinations produce essentially the same case curve. This is a serious obstacle in the study of the Ebola virus epidemics. We attempt a stable estimation of system parameters with the use of iterative regularization along with a special algorithm for computing initial values. The numerical study is illustrated for the most recent EVD outbreak in Sierra Leone and Liberia. (Received September 13, 2016)