A Numerical Study of a Mathematical Model of Cell Growth in Scaffolds

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Abstract: In this work we consider a mathematical model of cell growth in scaffolds for tissue regeneration. This model is taken from the work by Darae Jeong, Any Yum and Junseok Kim. We present numerical solutions of a system of partial differential equations. We solve the system numerically using finite difference schemes including a multigrid method coupled with a second order Runge-Kutta method. The algorithms will be run and tested through a series of computer simulations that will determine the accuracy and efficiency of the finite difference method.