1056-92-1859   **Lisa Driskell***, 150 N. University Street, West Lafayette, IN 47907. *A piecewise-defined two-variable model for cardiac tissue.*

We introduce a two-variable model developed as a modification of the popular Fitzhugh-Nagumo and Mitchell-Schaeffer models for electrical activity in excitable cells. Our model captures the major components of cardiac behavior while allowing for an explicit analysis of the propagation of electrical impulses in cardiac tissue. We examine the existence and stability of such traveling waves on varying geometries. (Received September 22, 2009)