

1035-39-902

Hassan Sedaghat* (hsedagha@vcu.edu), Department of Mathematics, Virginia Commonwealth University, Box 842014, Richmond, VA 23284-2014. *A monotone difference equation for pulse circulation in a loop of cardiac tissue.*

A discrete model of pulse circulation on a ring of excitable media, such as a loop of cardiac tissue, uses a higher order difference equation whose time delay equals the number of cell aggregates in the loop. Under generally accepted and experimentally verified conditions, this difference equation is represented by a mapping that is non-increasing in each coordinate. We discuss the background, the difference equation and the nature of its solutions. (Received September 17, 2007)