1145-VN-1256   **Kathryn A. Boddie*** (`klokken@uwm.edu`). *A Minimal Time Solution to the Firing Squad Synchronization Problem with Von Neumann Neighborhood with Radius of Extent 2.*

Cellular automata provide a simple environment in which to study global behaviors. One example of a problem that utilizes cellular automata is the Firing Squad Synchronization Problem, first proposed in 1957. This talk provides an overview of a new extension of the standard Firing Squad Synchronization Problem to a Von Neumann neighborhood with radius of extent 2. A minimal time solution to this extended problem will be presented and demonstrated through computer simulation. (Received September 20, 2018)