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J. Angela Hart Murdock* (murdocka@rhodes.edu). *Pulse Solutions of Multi-Parameter Oscillatory Coupling Functions in Neural Networks*. Preliminary report.

We study the existence and stability of stationary solutions of an integro-differential equation modeling the activity of a single layer of interconnected neurons. The multi-parameter connection function considered is laterally oscillatory with an exponential rate of decay. We identify regions in the parameter space where solutions exhibit area of excitation with single and dimpled pulses. We also discuss the stability of these pulse solutions. (Received September 25, 2006)