

* Electronic Address: bjorn_sandstede@brown.edu

¹ Brown University

Canard-like transitions from 1- to 2-pulses in the FitzHugh-Nagumo system

Björn Sandstede^{1*}

The FitzHugh-Nagumo system is a paradigm for singularly perturbed PDEs that supports stable localized pulses with both monotone and oscillatory tails. These pulses cease to exist in certain parameter regions: we show rigorously that the mechanism behind this phenomenon is a continuous transition from localized 1-pulses to 2-pulses, where the second pulse in the wake of the first pulses appears through a canard-like explosion. This is joint work with Paul Carter.