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Reducing a Conductance-Based Neuron Model to Normal Form

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Reducing a Conductance-Based Neuron Model to Normal Form

Conductance-based neuron models are a class of ordinary differential equation systems derived from biophysical principles to describe the electrical dynamics of single neurons. We use previously developed techniques to reduce a conductance-based neuron model to normal form, a minimal form related by diffeomorphism to the original form, at codimension-2 bifurcation points. We also present the unfolding of the normal form model which makes apparent its dynamic repertoire.

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