Mathematical Foundations of Neuroscience - Sample Questions - Lecture 8 - Classes of excitability

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 Questions marked with * are not obligatory.

1. Describe the Hodgkin classification of excitable membranes.

2. Describe in terms of phase plane geometry the class III excitable neuron.

3. What it the rheobase? What is a threshold?

4. How and impedance profile of an integrator looks like? How is it different from a corresponding profile of a resonator?

5. Describe the possible phenomena a bistable resonator may exhibit in response to a series of current pulses.

6. Can integrators spike in response to inhibitory current?

7. What can happen when a neuron is close to Bogdanov-Takens bifurcation? (*)