Mathematical Foundations of Neuroscience - Sample Questions - Lecture 11 - Bursting continued

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December 14, 2009

Questions marked with * are not obligatory.

1. Describe the possible point-point hysteresis loops in 2+1 fast slow systems.
2. Give examples of some cycle-cycle bursters
3. Describe the mechanism of point-point busting
4. Consider the trajectory on a torus on the figure. Sketch the bursting profile of V with respect to time.

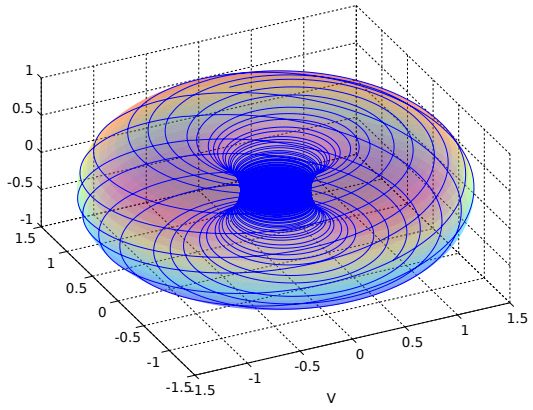

Figure 1: (quasi)periodic trajectory on an invariant torus.

5. How can bursters synchronize? Describe possible synchrony regimes.
6. What is the normal form of a fold/homoclinic burster? Can you explain the mechanism of bursting in the normal form? (*)