Firing sequence storage using inhibitory synapses in networks of pulsatil nonhomogeneous integrate-and-fire neural oscillators

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We discuss a nonhomogeneous population of pulsatil integrate-and-fire neural oscillators, coupled through purely inhibitory synapses. For instantaneous communication, we provide a strategy to generate synaptic couplings to obtain simple periodic and stable firing patterns. We provide restrictions under which each stored firing pattern is a unique attractor for the population dynamics. In the case of Peskin?s leaky integrator we show results obtained from numerical simulations. © 2002 The American Physical Society.