

On the robustness of update schedules in Boolean networks

Julio Aracena, Eric Goles, Lilian Salinas

Abstract

We study the robustness of the dynamical behavior of a Boolean network with respect to different update schedules (parallel, serial-parallel, serial). For a given Boolean network, we define equivalence classes of update schedules with the same dynamical behavior. In particular, we prove that these classes correspond to a generalization of those found in sequential dynamical systems. Finally, we study the robustness of dynamical cycles.