In Memoriam Adelina Georgescu

UNIVERSAL REGULAR AUTONOMOUS ASYNCHRONOUS SYSTEMS: $\omega-$LIMIT SETS, INVARIANCE AND BASINS OF ATTRACTION*

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Abstract

The asynchronous systems are the non-deterministic real time-binary models of the asynchronous circuits from electrical engineering. Autonomy means that the circuits and their models have no input. Regularity means analogies with the dynamical systems, thus such systems may be considered to be the real time dynamical systems with a 'vector field' $\Phi : \{0,1\}^n \to \{0,1\}^n$. Universality refers to the case when the state space of the system is the greatest possible in the sense of the inclusion. The purpose of this paper is that of defining, by analogy with the dynamical systems theory, the $\omega-$limit sets, the invariance and the basins of attraction of the universal regular autonomous asynchronous systems.

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