

## **Design of Self-Timed Circuits: a Functional Approach**

### Abstract

A new approach to design of speed-independent (SI) circuits having unique properties is proposed. The approach is called to bring the design of these circuits nearer to the categories and notions usual for most designers, without methods of automata theory. With the approach an analysis task of SI-circuits is effectively solved and also some synthesis tasks are solved. The approach opens new potentialities for the design flow inaccessible to existing eventbased methods: hierarchical analysis, hierarchical synthesis, coverage of large fault class.