**Low power race-free state assignment of asynchronous automata minimizing the switching activity of memory elements**

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**Abstract.** The problem of race-free state assignment of an asynchronous automaton is considered. A method to solve that problem is suggested that provides removal of critical races between memory elements along with minimizing the number of memory elements and minimization of their switching activity. The problem is reduced to finding a minimal weighted cover.

**Keywords:**

Asynchronous automaton, race-free state assignment, low power state assignment.