Carton, Olivier; Maceiras, Ramón
Computing the Rabin index of a parity automaton. (English) Zbl 0958.68089

Summary: The Rabin index of a rational language of infinite words given by a parity automaton with \( n \) states is computable in time \( O(n^2c) \) where \( c \) is the cardinality of the alphabet. The number of values used by a parity acceptance condition is always greater than the Rabin index and conversely, the acceptance condition of a parity automaton can always be replaced by an equivalent acceptance condition whose number of used values is exactly the Rabin index. This new acceptance condition can also be computed in time \( O(n^2c) \).

MSC:

- 68Q45 Formal languages and automata
- 03D15 Complexity of computation (including implicit computational complexity)

Keywords:

- Rabin index; parity automaton

Full Text: DOI Numdam EuDML

References:


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