MR2589993 (2011a:68024) 68P10 68Q45
Carrasco, Rafael C. (E-ALIC-LIS); **Daciuk, Jan** (PL-TGDN-KNE)
A perfect hashing incremental scheme for unranked trees using pseudo-minimal automata.
Theor. Inform. Appl. **43** (2009), *no. 4,* 779–790.

The authors present a method for implementing perfect hashing on unranked trees using bottom-up deterministic tree automata. Instead of using minimal DTA, they use a class of DTA, called pseudo-minimal hash DTA, which, at the cost of a possible size increase, can implement arbitrary hashing. Indeed, a pseudo-minimal automaton may be larger than the minimal one accepting the same language but, in turn, it contains proper elements (states or transitions which are unique) for every input accepted by the automaton. Therefore, as the authors argue, pseudo-minimal DTA are suitable structures to implement stable hashing schemes, that is, schemes where the output for every key can be determined prior to the automaton construction. The algorithm presented in the authors' earlier joint paper with M. L. Focada [Algorithmica **55** (2009), no. 1, 95–110; MR2506930 (2010i:68072)] is adapted for the incremental construction of a pseudo-minimal hash DTA and, based on this construction, a procedure to identify the proper elements and their associated codes is devised. *Saeed Salehi*

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