

Year: 2011

Vol.: 79

Fasc.: 3-4

Title: Prime factorization by interval-valued computing

Author(s): Benedek Nagy and Sándor Vályi

Interval-valued computing is a new theoretical computing paradigm. Hard problems, e.g. satisfiability of quantified Boolean formulae, can be solved in an efficient way deploying the massive parallelism of this paradigm. In this paper, we consider the prime factorization problem. We show an interval-valued algorithm that computes a proper divisor of the input number (or 1 in case the input is a prime). This interval-valued algorithm works in polynomial number of steps within this paradigm.

Address:

Benedek Nagy
Department of Computer Science
Faculty of Informatics
University of Debrecen
H-4010 Debrecen, P.O. Box 12
Hungary

Address:

Sándor Vályi
Institute of Mathematics and Informatics
College of Nyíregyháza
Sóstói út 31/B.
H-4410 Nyíregyháza,
Hungary