

Accepted Manuscript

Title: Parallel Fuzzy Cellular Automata for Data-Driven Simulation of Wildfire Spreading

Author: Vasileios G. Ntinis Byron E. Moutafis Giuseppe A. Trunfio Georgios Ch. Sirakoulis



PII: S1877-7503(16)30126-0
DOI: <http://dx.doi.org/doi:10.1016/j.jocs.2016.08.003>
Reference: JOCS 536

To appear in:

Received date: 12-4-2016
Revised date: 24-6-2016
Accepted date: 6-8-2016

Please cite this article as: Vasileios G. Ntinis, Byron E. Moutafis, Giuseppe A. Trunfio, Georgios Ch. Sirakoulis, Parallel Fuzzy Cellular Automata for Data-Driven Simulation of Wildfire Spreading, *Journal of Computational Science* (2016), <http://dx.doi.org/10.1016/j.jocs.2016.08.003>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Highlights

> Parallel Fuzzy Cellular Automata (FCA) are introduced for wildfire spreading modeling. > Proposed FCA model adopts a data-driven approach, based on evolutionary optimization. > Fully parallel implementations in GPUs and FPGAs hardware are presented. > We consider various FCA model parameters like landscape, wind, weather and fuel beds. > FCA results when compared with real wildfire prove model's flexibility providing accurate wildfire fronts.

Accepted Manuscript

Download English Version:

<https://daneshyari.com/en/article/4951015>

Download Persian Version:

<https://daneshyari.com/article/4951015>

[Daneshyari.com](https://daneshyari.com)