Computer Models
For
Fire and Smoke

Model Name:	F.A.S.T.
Version:	2.0
Date:	February 10th 2014
Model Actively Supported?:	no
Classification:	Egress; Microscopic, Agent-based; Cellular Automata
Very Short Description:	F.A.S.T. (Floor-field and Agent-based Simulation Tool)
Modeler(s), Organization(s):	Dr. Tobias Kretz
User's Guide:	not available
Technical References:	T. Kretz and M. Schreckenberg, "The F.A.S.T.-Model", in Cellular Automata - 7th International Conference on Cellular Automata for Research and Industry, ACRI 2006, Proceedings, S. El Yacoubi, B. Chopard, and S. Bandini, eds., pp. 712-715. Springer Berlin / Heidelberg. Perpignan, France (2006). ISBN: 978-3-540-40929-8.
	T. Kretz and M. Schreckenberg, "Moore and more and symmetry", in Pedestrian and Evacuation Dynamics 2005, N. Waldau, P. Gattermann, H. Knoflacher, and M. Schreckenberg, eds., pp. 297-308. Springer Berlin Heidelberg, Vienna (2007). ISBN: 978-3-540-47062-5.
	T. Kretz, "Pedestrian Traffic - Simulation and Experiments". PhD thesis, Universität Duisburg-Essen (2007).
	T. Kretz, M. Kaufman, and M. Schreckenberg, "Counterflow Extension for the F.A.S.T.-Model", in H. Umeo, S. Morishita, K. Nishinari, T. Komatsuzaki, and S. Bandini (eds). Cellular Automata - 8th International Conference on Cellular Automata for Research and Industry, ACRI 2008,

Proceedings, pp. 555-558. Springer Berlin / Heidelberg, Yokohama, Japan (2008). ISBN:978-3-540-79991-7.

T. Kretz, "Pedestrian Traffic: on the Quickest Path", Journal of Statistical Mechanics: Theory and Experiment P03012 (2009).

T. Kretz and M. Schreckenberg, "F.A.S.T. - Floor field- and Agent-based Simulation Tool", in Transport simulation: Beyond traditional approaches, E. Chung and A.-G. Dumont, eds., ch. 8, pp. 125-135. EPFL press, Lausanne, CH (2009). ISBN:978-1420095098.

T. Kretz, "The use of dynamic distance potential fields for pedestrian flow around corners", in First International Conference on Evacuation Modeling and Management. TU Delft (2009).

T. Kretz, "Computation Speed of the F.A.S.T. Model", prepared for Traffic and Granular Flow '09, Springer-Verlag (accepted for publication).

T. Kretz, "Applications of the Dynamic Distance Potential Field Method", prepared for Traffic and Granular Flow '09, (accepted for publication).

T. Kretz, "The Dynamic Distance Potential Field in a Situation with Asymmetric Bottleneck Capacities", in S. Bandini, S. Manzoni, H. Umeo, and G. Vizzari (eds.) Cellular Automata for Research and Industry (ACRI) 2010, Springer Berlin / Heidelberg (2010) ISBN: 978-3642159787.

T. Kretz "The Effect of Integrating Travel Time", in Pedestrian and Evacuation Dynamics 2012, U. Weidmann, U. Kirsch, and M. Schreckenberg (eds.), Springer-Verlag (2014). ISBN 978-3-319-02446-2.

Validation References:	T. Kretz, "Pedestrian Traffic - Simulation and Experiments". PhD thesis, Universität Duisburg-Essen (2007).
Availability:	from modeller
Price:	-
Necessary Hardware:	PC from 2003 or later
Computer Language:	c++

Size: 10 MB

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Detailed Description:
    A detailed description is given in the above mentioned papers of which most are
    freely available as preprints (see http://tinyurl.com/muykexl).