Andreas Schadschneider

List of Publications by Year
in descending order

167	10,154	53751 45	37183 96
papers	citations	h-index	g-index

176	176	176	3094
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Simulation of pedestrian dynamics using a two-dimensional cellular automaton. Physica A: Statistical Mechanics and Its Applications, 2001, 295, 507-525.	1.2	1,458
2	Simulation of evacuation processes using a bionics-inspired cellular automaton model for pedestrian dynamics. Physica A: Statistical Mechanics and Its Applications, 2002, 312, 260-276.	1.2	831
3	Discrete stochastic models for traffic flow. Physical Review E, 1995, 51, 2939-2949.	0.8	412
4	Friction effects and clogging in a cellular automaton model for pedestrian dynamics. Physical Review E, 2003, 67, 056122.	0.8	403
5	Optimizing traffic lights in a cellular automaton model for city traffic. Physical Review E, 2001, 64, 056132.	0.8	333
6	Physics of transport and traffic phenomena in biology: from molecular motors and cells to organisms. Physics of Life Reviews, 2005, 2, 318-352.	1.5	287
7	Generalized centrifugal-force model for pedestrian dynamics. Physical Review E, 2010, 82, 046111.	0.8	276
8	Transitions in pedestrian fundamental diagrams of straight corridors and T-junctions. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P06004.	0.9	250
9	Evacuation Dynamics: Empirical Results, Modeling and Applications. , 2009, , 3142-3176.		241
10	Ordering in bidirectional pedestrian flows and its influence on the fundamental diagram. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P02002.	0.9	226
11	Matrix Product Ground States for One-Dimensional Spin-1 Quantum Antiferromagnets. Europhysics Letters, 1993, 24, 293-297.	0.7	223
12	Simulation of competitive egress behavior: comparison with aircraft evacuation data. Physica A: Statistical Mechanics and Its Applications, 2003, 324, 689-697.	1.2	212
13	Intracellular Transport of Single-Headed Molecular Motors KIF1A. Physical Review Letters, 2005, 95, 118101.	2.9	178
14	Self-organization of traffic jams in cities: Effects of stochastic dynamics and signal periods. Physical Review E, 1999, 59, R1311-R1314.	0.8	174
15	Discretization effects and the influence of walking speed in cellular automata models for pedestrian dynamics. Journal of Statistical Mechanics: Theory and Experiment, 2004, 2004, P10011.	0.9	173
16	Traffic flow: a statistical physics point of view. Physica A: Statistical Mechanics and Its Applications, 2002, 313, 153-187.	1.2	153
17	Single-vehicle data of highway traffic: Microscopic description of traffic phases. Physical Review E, 2002, 65, 056133.	0.8	145
18	Disorder effects in cellular automata for two-lane traffic. Physica A: Statistical Mechanics and Its Applications, 1999, 265, 614-633.	1.2	141

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19	Î·Pairing as a Mechanism of Superconductivity in Models of Strongly Correlated Electrons. Physical Review Letters, 1995, 74, 789-792.	2.9	116
20	Empirical study on social groups in pedestrian evacuation dynamics. Physica A: Statistical Mechanics and Its Applications, 2017, 475, 129-141.	1.2	113
21	Cluster formation and anomalous fundamental diagram in an ant-trail model. Physical Review E, 2003, 67, 036120.	0.8	110
22	Quantitative analysis of pedestrian counterflow in a cellular automaton model. Physical Review E, 2012, 85, 066128.	0.8	106
23	Empirical test for cellular automaton models of traffic flow. Physical Review E, 2004, 70, 016115.	0.8	101
24	Modelling of self-driven particles: Foraging ants and pedestrians. Physica A: Statistical Mechanics and Its Applications, 2006, 372, 132-141.	1.2	99
25	Trafficlike Collective Movement of Ants on Trails: Absence of a Jammed Phase. Physical Review Letters, 2009, 102, 108001.	2.9	99
26	Statistical physics of traffic flow. Physica A: Statistical Mechanics and Its Applications, 2000, 285, 101-120.	1.2	98
27	Traffic flow models with â€˜slow-to-startâ€™ rules. Annalen Der Physik, 1997, 509, 541-551.	0.9	97
28	Automatic Extraction of Pedestrian Trajectories from Video Recordings. , 2010, , 43-54.		97
29	Diffusion with resetting in bounded domains. Journal of Physics A: Mathematical and Theoretical, 2015, 48, 285003.	0.7	96
30	Open boundaries in a cellular automaton model for traffic flow with metastable states. Physical Review E, 2002, 66, 046113.	0.8	95
31	A cellular-automata model of flow in ant trails: non-monotonic variation of speed with density. Journal of Physics A, 2002, 35, L573-L577.	1.6	93
32	Force-based models of pedestrian dynamics. Networks and Heterogeneous Media, 2011, 6, 425-442.	0.5	92
33	Fibonacci family of dynamical universality classes. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12645-12650.	3.3	83
34	Empirical results for pedestrian dynamics and their implications for modeling. Networks and Heterogeneous Media, 2011, 6, 545-560.	0.5	83
35	Characteristics of ant-inspired traffic flow. Swarm Intelligence, 2008, 2, 25-41.	1.3	81
36	Collective effects in traffic on bi-directional ant trails. Journal of Theoretical Biology, 2004, 231, 279-285.	0.8	77

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37	Enhanced Empirical Data for the Fundamental Diagram and the Flow Through Bottlenecks. , 2010, , 145-156.		76
38	VALIDATION OF CA MODELS OF PEDESTRIAN DYNAMICS WITH FUNDAMENTAL DIAGRAMS. Cybernetics and Systems, 2009, 40, 367-389.	1.6	73
39	Superconductivity in an exactly solvable Hubbard model with bond-charge interaction. Physical Review B, 1995, 51, 10386-10391.	1.1	72
40	Exact Ground States of Generalized Hubbard Models. Physical Review Letters, 1995, 75, 4298-4301.	2.9	67
41	Universal flow-density relation of single-file bicycle, pedestrian and car motion. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 3274-3277.	0.9	63
42	Intracellular transport by single-headed kinesin KIF1A: Effects of single-motor mechanochemistry and steric interactions. Physical Review E, 2007, 75, 041905.	0.8	62
43	Car-oriented mean-field theory for traffic flow models. Journal of Physics A, 1997, 30, L69-L75.	1.6	60
44	A stochastic cellular automaton model for traffic flow with multiple metastable states. Journal of Physics A, 2004, 37, 3101-3110.	1.6	56
45	CA Approach to Collective Phenomena in Pedestrian Dynamics. Lecture Notes in Computer Science, 2002, , 239-248.	1.0	54
46	Study of Influence of Groups on Evacuation Dynamics Using a Cellular Automaton Model. Transportation Research Procedia, 2014, 2, 168-176.	0.8	54
47	Human behavior as origin of traffic phases. Physical Review E, 2001, 65, 015101.	0.8	47
48	Asymmetric exclusion processes with shuffled dynamics. Journal of Physics A, 2006, 39, 33-44.	1.6	47
49	Garden of Eden states in traffic models. Journal of Physics A, 1998, 31, L225-L231.	1.6	45
50	Self-organized patterns and traffic flow in Colonies of organisms: from bacteria and social insects to vertebrates. Phase Transitions, 2004, 77, 601-624.	0.6	45
51	Phase diagram and edge effects in the ASEP with bottlenecks. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 1972-1986.	1.2	45
52	Collective Traffic-like Movement of Ants on a Trail: Dynamical Phases and Phase Transitions. Journal of the Physical Society of Japan, 2004, 73, 2979-2985.	0.7	43
53	Critical Bottleneck Size for Jamless Particle Flows in Two Dimensions. Physical Review Letters, 2014, 112, 138701.	2.9	43
54	Phase Coexistence in Congested States of Pedestrian Dynamics. Lecture Notes in Computer Science, 2010, , 496-505.	1.0	41

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55	Cellular automata models of highway traffic. Physica A: Statistical Mechanics and Its Applications, 2006, 372, 142-150.	1.2	40
56	Evacuation Dynamics: Empirical Results, Modeling and Applications. , 2011, , 517-550.		40
57	Diffusion with resetting inside a circle. Physical Review E, 2018, 97, 062106.	0.8	39
58	On the ubiquity of matrix-product states in one-dimensional stochastic processes with boundary interactions. Physica A: Statistical Mechanics and Its Applications, 1999, 271, 102-117.	1.2	38
59	Empirical Results for Pedestrian Dynamics and their Implications for Cellular Automata Models. , 2009, , 27-43.		38
60	A microscopic model for packet transport in the Internet. Physica A: Statistical Mechanics and Its Applications, 2001, 294, 249-256.	1.2	35
61	Experimental study on the effect of background music on pedestrian movement at high density. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 1011-1018.	0.9	35
62	Localized defects in a cellular automaton model for traffic flow with phase separation. Physica A: Statistical Mechanics and Its Applications, 2002, 308, 471-482.	1.2	33
63	Optimization of highway networks and traffic forecasting. Physica A: Statistical Mechanics and Its Applications, 2005, 346, 165-173.	1.2	33
64	Single-bottleneck approximation for driven lattice gases with disorder and open boundary conditions. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P04009.	0.9	33
65	An information-based traffic control in a public conveyance system: Reduced clustering and enhanced efficiency. Physica A: Statistical Mechanics and Its Applications, 2007, 384, 600-612.	1.2	29
66	Random walk theory of jamming in a cellular automaton model for traffic flow. Physica A: Statistical Mechanics and Its Applications, 2001, 294, 525-538.	1.2	28
67	White and relaxed noises in optimal velocity models for pedestrian flow with stop-and-go waves. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 185101.	0.7	28
68	Fundamentals of Pedestrian and Evacuation Dynamics. Advances in Mechatronics and Mechanical Engineering, 2009, , 124-154.	1.0	27
69	Jamming transitions in force-based models for pedestrian dynamics. Physical Review E, 2015, 92, 042809.	0.8	26
70	Modeling fatigue of ascending stair evacuation with modified fine discrete floor field cellular automata. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 1897-1906.	0.9	26
71	Defect-induced phase transition in the asymmetric simple exclusion process. Europhysics Letters, 2015, 110, 20008.	0.7	25
72	Exact Mean-Field Solutions of the Asymmetric Random Average Process. Journal of Statistical Physics, 2002, 106, 173-185.	0.5	24

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73	Efficient and validated simulation of crowds for an evacuation assistant. Computer Animation and Virtual Worlds, 2012, 23, 3-15.	0.7	23
74	Pedestrian Dynamics: From Empirical Results to Modeling. Modeling and Simulation in Science, Engineering and Technology, 2018, , 63-102.	0.4	23
75	Modeling the effect of visibility on upstairs crowd evacuation by a stochastic FFCA model with finer discretization. Physica A: Statistical Mechanics and Its Applications, 2019, 531, 121723.	1.2	21
76	Disordered driven lattice gases with boundary reservoirs and Langmuir kinetics. Physical Review E, 2009, 79, 031107.	0.8	19
77	Exclusive queueing processes and their application to traffic systems. Mathematical Models and Methods in Applied Sciences, 2015, 25, 401-422.	1.7	19
78	Mechanical Restriction Versus Human Overreaction: Accident Avoidance and Two-Lane Traffic Simulations. , 2007, , 503-508.		19
79	Effect of turning curvature on the single-file dynamics of pedestrian flow: An experimental study. Physica A: Statistical Mechanics and Its Applications, 2021, 563, 125405.	1.2	18
80	From Ant Trails to Pedestrian Dynamics. Applied Bionics and Biomechanics, 2003, 1, 11-19.	0.5	17
81	Dynamical analysis of the exclusive queueing process. Physical Review E, 2011, 83, 051128.	0.8	17
82	Comparative Analysis of Pedestrian, Bicycle and Car Traffic Moving in Circuits. Procedia, Social and Behavioral Sciences, 2013, 104, 1130-1138.	0.5	17
83	Braess paradox in a network of totally asymmetric exclusion processes. Physical Review E, 2016, 94, 062312.	0.8	17
84	Congestion Dynamics in Pedestrian Single-File Motion. , 2016, , 89-96.		17
85	Spatio-temporal organization of vehicles in a cellular automata model of traffic with `slow-to-start' rule. Journal of Physics A, 1999, 32, 3229-3252.	1.6	16
86	Broken Ergodicity in a Stochastic Model with Condensation. Physical Review Letters, 2002, 89, 090601.	2.9	16
87	Exact ground states of spin-2 chains. Europhysics Letters, 2002, 59, 889-895.	0.7	16
88	Exact ground states of quantum spin-2 models on the hexagonal lattice. Physical Review B, 2005, 71, .	1.1	16
89	STATISTICAL PROPERTIES OF ONLINE AUCTIONS. International Journal of Modern Physics C, 2006, 17, 1485-1493.	0.8	16
90	Exact solution of a one-dimensional fermion model with interchain tunneling. Physical Review B, 1994, 50, 9676-9679.	1.1	15

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91	From aggressive driving to molecular motor traffic. Journal of Physics A, 2006, 39, 14263-14287.	1.6	15
92	Prediction of pedestrian dynamics in complex architectures with artificial neural networks. Journal of Intelligent Transportation Systems: Technology, Planning, and Operations, 2020, 24, 556-568.	2.6	15
93	Intra-cellular traffic: bio-molecular motors on filamentary tracks. European Physical Journal B, 2008, 64, 593-600.	0.6	13
94	Quantitative Description of Pedestrian Dynamics with a Force-Based Model. , 2009, , .		13
95	Braess paradox in a network with stochastic dynamics and fixed strategies. Physica A: Statistical Mechanics and Its Applications, 2018, 507, 133-152.	1.2	13
96	Modelling of Pedestrian and Evacuation Dynamics. , 2018, , 1-22.		13
97	Modeling the Desired Direction in a Force-Based Model for Pedestrian Dynamics. , 2013, , 263-275.		13
98	Stochastic Headway Dependent Velocity Model for 1d Pedestrian Dynamics at High Densities. Transportation Research Procedia, 2014, 2, 400-405.	0.8	12
99	Empirical Study of the Influence of Social Groups in Evacuation Scenarios. , 2016, , 65-72.		12
100	Modelling of Transport and Traffic Problems. Lecture Notes in Computer Science, 2008, , 22-31.	1.0	12
101	Empirical Results of Pedestrian and Evacuation Dynamics. , 2018, , 1-29.		12
102	Pair Correlation Functions in One-Dimensional Correlated-Hopping Models. Europhysics Letters, 1995, 32, 179-184.	0.7	10
103	Comment on `Garden of Eden states in a traffic model revisited'. Journal of Physics A, 2002, 35, 1321-1322.	1.6	10
104	Exploring the behavior of self-organized queuing for pedestrian flow through a non-service bottleneck. Physica A: Statistical Mechanics and Its Applications, 2021, 562, 125186.	1.2	10
105	Empirical Results for Pedestrian Dynamics at Bottlenecks. Lecture Notes in Computer Science, 2010, , 575-584.	1.0	10
106	From ant trails to pedestrian dynamics. Applied Bionics and Biomechanics, 2003, 1, 11-19.	0.5	9
107	Competition of coarsening and shredding of clusters in a driven diffusive lattice gas. Journal of Statistical Mechanics: Theory and Experiment, 2006, 2006, P06012-P06012.	0.9	9
108	Exact dynamical state of the exclusive queueing process with deterministic hopping. Physical Review E, 2011, 84, 051127.	0.8	9

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109	Kardar-Parisi-Zhang universality of the Nagel-Schreckenberg model. Physical Review E, 2019, 100, 052111.	0.8	9
110	Cellular Automaton Approach to Highway Traffic: What do we Know?. , 2009, , 19-34.		9
111	Density profiles of the exclusive queuing process. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P12004.	0.9	8
112	Simulation of Merging Pedestrian Streams at T-junctions. Transportation Research Procedia, 2014, 2, 406-411.	0.8	8
113	Exact Stationary State of a Staggered Stochastic Hopping Model. Journal of Low Temperature Physics, 2002, 126, 1411-1422.	0.6	7
114	The Dynamics of Waiting: The Exclusive Queueing Process. Transportation Research Procedia, 2014, 2, 87-95.	0.8	7
115	The effect of modern traffic information on Braessâ€™ paradox. Physica A: Statistical Mechanics and Its Applications, 2021, 571, 125829.	1.2	7
116	Fundamental Diagram and Validation of Crowd Models. Lecture Notes in Computer Science, 2008, , 563-566.	1.0	7
117	CA Modeling of Ant-Traffic on Trails. Understanding Complex Systems, 2010, , 275-300.	0.3	7
118	Modeling the effects of entry restriction on crowd dynamics for dual-exit bottleneck. International Journal of Modern Physics C, 2018, 29, 1850101.	0.8	6
119	Resolution of deadlocks in a fine discrete floor field cellular automata modelâ€”modeling of turning and lateral movement at bottlenecks. Journal of Statistical Mechanics: Theory and Experiment, 2019, 2019, 123402.	0.9	6
120	On Force-Based Modeling of Pedestrian Dynamics. The Kluwer International Series in Video Computing, 2013, , 23-41.	0.7	6
121	An attempt to distinguish physical and socio-psychological influences on pedestrian bottleneck. Royal Society Open Science, 2022, 9, .	1.1	6
122	Thermodynamic properties and thermal correlation lengths of a Hubbard model with bond-charge interaction. Physical Review B, 2003, 68, .	1.1	5
123	Pedestrian Dynamics. , 2011, , 407-460.		5
124	Critical behavior of the exclusive queueing process. Europhysics Letters, 2013, 104, 30004.	0.7	5
125	Estimating Escalator vs Stairs Choice Behavior in the Presence of Entry Railing: A Field Study. KSCE Journal of Civil Engineering, 2018, 22, 5203-5214.	0.9	5
126	Prediction of Pedestrian Speed with Artificial Neural Networks. , 2019, , 327-335.		5

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127	HERMES: An Evacuation Assistant for Large Sports Arenas Based on Microscopic Simulations of Pedestrian Dynamics. , 2013, , 287-298.		5
128	Heterogeneity-induced lane and band formation in self-driven particle systems. Scientific Reports, 2022, 12, 4768.	1.6	5
129	QUANTUM CORNER â€" TRANSFER MATRIX DMRG. International Journal of Modern Physics C, 2008, 19, 1145-1161.	0.8	4
130	Cellular Automaton Approach to Arching in Two-Dimensional Granular Media. Lecture Notes in Computer Science, 2014, , 310-319.	1.0	4
131	A Stochastic Optimal Velocity Model for Pedestrian Flow. Lecture Notes in Computer Science, 2016, , 528-538.	1.0	4
132	Conflicts and Friction in Pedestrian Dynamics. Lecture Notes in Computer Science, 2008, , 559-562.	1.0	4
133	A Cellular Automaton Approach for Lane Formation in Pedestrian Counterflow. , 2013, , 149-160.		4
134	Transport on Networks. , 2011, , 383-405.		3
135	Influence of the number of predecessors in interaction within acceleration-based flow models. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 345102.	0.7	3
136	Modelling of Pedestrian and Evacuation Dynamics. , 2019, , 649-669.		3
137	Evacuation Dynamics of Asymmetrically Coupled Pedestrian Pairs. , 2016, , 265-272.		3
138	PEDESTRIAN DYNAMICS IN SINGLE-FILE MOVEMENT UNDER BACKGROUND MUSIC WITH DIFFERENT TEMPOS. International Journal of Modeling, Simulation, and Scientific Computing, 2021, 24, .	0.9	3
139	Effective ergodicity breaking in an exclusion process with varying system length. Physica A: Statistical Mechanics and Its Applications, 2015, 433, 100-106.	1.2	2
140	Zum Gebrauch der Begriffe Experiment, Theorie, Modell und Gesetz in den mathematisch-naturwissenschaftlichen FÄchern. Chemkon - Chemie Konkret, Forum Fuer Unterricht Und Didaktik, 2018, 25, 324-333.	0.2	2
141	Empirical Results of Pedestrian and Evacuation Dynamics. , 2019, , 671-699.		2
142	Technical realisation of a remote-controlled forced mechanic oscillation experiment through the Internet. Physics Education, 2019, 54, 015012.	0.3	2
143	Stop-and-go waves induced by correlated noise in pedestrian models without inertia. Journal of Traffic and Transportation Engineering (English Edition), 2020, 7, 52-60.	2.0	2
144	Flux-density relation for traffic of army ants in a 3-lane bi-directional trail. Physica A: Statistical Mechanics and Its Applications, 2021, 567, 125664.	1.2	2

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145	The Trouble with 2nd Order Models or How to Generate Stop-and-Go Traffic in a 1st Order Model. Springer Proceedings in Physics, 2020, , 45-51.	0.1	2
146	Asymmetric Exclusion Processes with Non-Factorizing Steady States. , 2007, , 473-479.		2
147	Traffic of Ants on a Trail: A Stochastic Modelling and Zero Range Process. Lecture Notes in Computer Science, 2004, , 192-201.	1.0	2
148	Special Issue on Vehicular and Pedestrian Traffic Flow from Data to Models. Transportmetrica A: Transport Science, 2018, 14, 373-374.	1.3	1
149	Dietrich Stauffer (1943â€“2019). International Journal of Modern Physics C, 2020, 31, 2001001.	0.8	1
150	When Is a Bottleneck a Bottleneck?. , 2016, , 403-410.		1
151	Traffic Phenomena in Biology: From Molecular Motors to Organisms. , 2007, , 223-238.		1
152	Traffic on Bidirectional Ant Trails: Coarsening Behaviour and Fundamental Diagrams. , 2007, , 269-276.		1
153	Cellular Automata Simulation of Collective Phenomena in Pedestrian Dynamics. Lecture Notes in Computational Science and Engineering, 2003, , 390-405.	0.1	1
154	Noise-Induced Stop-and-Go Dynamics. , 2019, , 337-345.		1
155	Î·-pairing superconductivity in generalized Hubbard models. Phase Transitions, 1996, 57, 37-41.	0.6	0
156	Vehicular Traffic III: Other CA Models. , 2011, , 281-333.		0
157	Vehicular Traffic IV: Non-CA Approaches. , 2011, , 335-381.		0
158	OpenPedSim: A Framework for Pedestrian Flow Analysis. , 2014, , 1323-1330.		0
159	Traffic Patterns and Flow Characteristics in an Ant Trail Model. Lecture Notes in Computer Science, 2006, , 306-315.	1.0	0
160	A Public Conveyance Model and Analysis on Clustering of Vehicles. , 2009, , 407-412.		0
161	Statistical Properties of Disordered Driven Lattice Gases with Open Boundaries. , 2009, , 307-313.		0
162	Traffic Flow on Ant Trails: Empirical Results vs. Theoretical Predictions. , 2009, , 701-706.		0

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163	MECHANICAL RESTRICTION VS. HUMAN OVERREACTION. , 2009, , 93-104.		0
164	Productivity Enhancement through Lot Size Optimization. Lecture Notes in Computer Science, 2010, , 593-599.	1.0	0
165	Traffic Phenomena in Biology. , 2011, , 461-488.		0
166	Quantitative Validation of the Generalized Centrifugal Force Model. , 2014, , 603-613.		0
167	Dynamical Universality Class of the Nagelâ€“Schreckenberg and Related Models. , 2019, , 53-60.		0