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Makaleler (YOKSIS)

- 1 2 D Reversible Cellular Automata with Nearest and Prolonged Next Nearest Neighborhoods under Periodic Boundary**
ŞİAP İRFAN, AKIN HASAN, UĞUZ SELMAN
EUROPEAN JOURNAL OF PURE AND APPLIED MATHEMATICS, <https://ejpam.com/index.php/ejpam/article/view/2011>
- 2 2 Dimensional Reversible Hexagonal Cellular Automata with Periodic Boundary**
UĞUZ SELMAN, ŞİAP İRFAN, AKIN HASAN
ACTA PHYSICA POLONICA A, <http://przyrbwn.icm.edu.pl/APP/PDF/123/a123z2p106.pdf>
- 3 2D Cellular Automata with an Image Processing Application**
UĞUZ SELMAN, Şahin Uğur, AKIN HASAN, ŞİAP İRFAN
ACTA PHYSICA POLONICA A, <http://dx.doi.org/10.12693/aphyspola.125.435>
- 4 3-state hybrid Potts-SOS model with different coupling constants and its phase transition phenomenon**
AKIN HASAN, Mukhamedov Farrukh
Physica Scripta,
- 5 A family of two dimensional hybrid cellular automata and its applications to pseudo random number generators**
TEMİZ FATİH, ŞİAP İRFAN, AKIN HASAN, KÖROĞLU MEHMET EMİN
AWER Procedia Information Technology and Computer Science, https://www.researchgate.net/publication/313821289_A_Family_of_Two_Dimensional_Hybrid_Cellular_Automata_and_Its_Applications_to_Pseudo_Random_Number_Generators
- 6 A NEW APPROACH TO STUDYING THE THERMODYNAMIC PROPERTIES OF THE q-STATE POTTS MODEL ON A CAYLEY TREE**
AKIN HASAN, Ulusoy Suleyman
CHAOS SOLITONS & FRACTALS,

- 7 A New Set of Limiting Gibbs Measures for the Ising Model on a Cayley Tree**
AKIN HASAN, Rozikov Utkir, TEMİR SEYİT
JOURNAL OF STATISTICAL PHYSICS,
- 8 A note on dominant contractions of Jordan algebras**
Mukhamedov Farrukh, TEMİR SEYİT, AKIN HASAN
TURKISH JOURNAL OF MATHEMATICS,
- 9 A novel computational method of the free energy for an Ising model on Cayley tree of order three**
AKIN HASAN
Chinese Journal of Physics,10.1016/j.cjph.2022.01.016
- 10 Analysis of Gibbs Measures and Stability of Dynamical System Linked to $(1,1/2)$ -Mixed Ising Model on (m,k) -Ary Trees**
Qawasmeh Aminah,Mukhamedov Farrukh,AKIN HASAN
Mathematical Physics, Analysis and Geometry,<https://doi.org/10.1007/s11040-025-09504-4>
- 11 Behavior of the Phase Diagrams of Potts Model on Cayley Tree for Order Three**
TEMİR SEYİT, Ganikhodjaev Nasir, UĞUZ SELMAN, AKIN HASAN
ACTA PHYSICA POLONICA A,<http://przyrbwn.icm.edu.pl/APP/PDF/123/a123z2p105.pdf>
- 12 Calculation of some thermodynamic quantities for the Ising model on a kth order Cayley tree**
AKIN HASAN
Physica B: Condensed Matter,<http://dx.doi.org/10.1016/j.physb.2023.414929>
- 13 Calculation of the Free Energy of the Ising Model on a Cayley Tree via the Self-Similarity Method**
AKIN HASAN
Axioms,<http://dx.doi.org/10.3390/axioms11120703>
- 14 Calculation of Thermodynamic Quantities of 1D Ising Model with Mixed Spin- $(s,(2t - 1)/2)$ by Means of Transfer Matrix**
AKIN HASAN
Axioms,<http://dx.doi.org/10.3390/axioms12090880>
- 15 Cellular automata based byte error correcting codes over finite fields**
KÖROĞLU MEHMET EMİN, ŞİAP İRFAN, AKIN HASAN
American Institute of Physics,<http://proceedings.aip.org/dbt/dbt.jsp?KEY=APCPCS&Volume=1470&Issue=1&ver=pdfcov>
- 16 Cellular automata with Penta Cyclic Rule and ECCs**
İRFAN SIAP, HASAN AKIN, MEHMET E KOROĞLU
International Journal of Modern Physics C,
- 17 Characterization of 2D Hybrid Cellular Automata with Periodic Boundary**
ACAR ECEM, UĞUZ SELMAN, AKIN HASAN
Acta Physica Polonica A,<https://doi.org/10.12693/aphyspola.131.432>

- 18 **Characterization of Bistochastic Kadison–Schwarz Operators on $M_2(\mathbb{C})$**
Mukhamedov Farrukh, AKIN HASAN
Proceedings of the Steklov Institute of Mathematics, <https://doi.org/10.1134/s0081543821020164>
- 19 **Characterization of two dimensional cellular automata over ternary fields**
ŞİAP İRFAN, AKIN HASAN, ŞAH FERHAT
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, <http://linkinghub.elsevier.com/retrieve/pii/S0016003210000475>
- 20 **Conjugations between circle maps with a single break point**
Dzhililov Akhtam, Akin Hasan, Temir Seyit
Journal of Mathematical Analysis and Applications, <http://linkinghub.elsevier.com/retrieve/pii/S0022247X09010555>
- 21 **Description of Extreme Gibbs Measures for the Ising Model with Three Interactions**
AKIN HASAN, Ganikhodjaev Nasir, TEMİR SEYİT, UĞUZ SELMAN
ACTA PHYSICA POLONICA A, <http://przyrbwn.icm.edu.pl/APP/PDF/123/a123z2p107.pdf>
- 22 **Description of Reversibility of 9-Cyclic 1D Finite Linear Cellular Automata with Periodic Boundary Conditions**
AKIN HASAN
Journal of Cellular Automata,
- 23 **Determination of paramagnetic and ferromagnetic phases of an Ising model on a third-order Cayley tree**
AKIN HASAN
Condensed Matter Physics, <http://dx.doi.org/10.5488/cmp.24.13001>
- 24 **Error Correcting Codes via Reversible Cellular Automata Over Finite Fields**
Köroğlu Mehmet Emin, ŞİAP İRFAN, AKIN HASAN
Arabian Journal for Science and Engineering, <http://dx.doi.org/10.1007/s13369-013-0757-0>
- 25 **Exact Solution of a Generalized ANNNI Model on a Cayley Tree**
Rozikov Utkir, AKIN HASAN, UĞUZ SELMAN
Mathematical Physics, Analysis and Geometry, <http://dx.doi.org/10.1007/s11040-014-9144-7>
- 26 **Existence of p-Adic Quasi Gibbs Measures for Mixed Type p-Adic Ising λ -Model**
DOĞAN MUTLAY, AKIN HASAN, Mukhamedov Farrukh
Acta Physica Polonica A, <https://doi.org/10.12693/aphyspola.129.861>
- 27 **Exploring the phase transition challenge by analyzing stability in a 5-D dynamical system linked to (2,1/2)-MSIM**
AKIN HASAN
Chinese Journal of Physics, <https://doi.org/10.1016/j.cjph.2024.08.008>
- 28 **Garden of eden configurations for 2-D cellular automata with rule 2460N**
ŞİAP İRFAN, AKIN HASAN, ŞAH FERHAT
Information Sciences, <http://dx.doi.org/10.1016/j.ins.2010.05.039>

- 29 Gibbs measures and free energies of Ising–Vannimenus model on the Cayley tree**
Mukhamedov Farrukh, AKIN HASAN, Khakimov Otabek
Journal of Statistical Mechanics: Theory and Experiment, <https://doi.org/10.1088/1742-5468/aa6c88>
- 30 Gibbs measures of an Ising model with competing interactions on the triangular chandelier-lattice**
AKIN HASAN
Condensed Matter Physics, <http://dx.doi.org/10.5488/cmp.22.23002>
- 31 Gibbs measures with memory of length 2 on an arbitrary-order Cayley tree**
AKIN HASAN
International Journal of Modern Physics C, <http://dx.doi.org/10.1142/s012918311850016x>
- 32 Hybrid quadratic cellular automata and its applications to pseudo random number generators**
KÖROĞLU MEHMET EMİN, ŞİAP İRFAN, AKIN HASAN, TEMİZ FATİH
AWER Procedia Information Technology and Computer Science, https://www.researchgate.net/publication/314095272_Hybrid_quadratic_cellular_automata_and_its_applications_to_Pseudo_random_number_generators#fullTextFileContent
- 33 Investigation of thermodynamic properties of mixed-spin (2, 1/2) Ising and Blum–Capel models on a Cayley tree**
AKIN HASAN
Chaos, Solitons Fractals, <https://doi.org/10.1016/j.chaos.2024.114980>
- 34 Limiting Gibbs measures of the q-state Potts model with competing interactions**
AKIN HASAN, Uusoy Suleyman
Physica B: Condensed Matter, <http://dx.doi.org/10.1016/j.physb.2022.413944>
- 37 LYAPUNOV EXPONENTS AND MODULATED PHASES OF AN ISING MODEL ON CAYLEY TREE OF ARBITRARY ORDER**
UGUZ SELMAN, GANIKHODJAEV NASIR, AKIN HASAN, TEMIR SEYIT
International Journal of Modern Physics C, <http://www.worldscientific.com/doi/abs/10.1142/S0129183112500398>
- LYAPUNOV EXPONENTS AND MODULATED PHASES OF AN ISING MODEL ON CAYLEY TREE OF ARBITRARY ORDER**
UGUZ SELMAN, GANIKHODJAEV NASIR, AKIN HASAN, TEMIR SEYIT
International Journal of Modern Physics C, <http://www.worldscientific.com/doi/abs/10.1142/S0129183112500398>
- LYAPUNOV EXPONENTS AND MODULATED PHASES OF AN ISING MODEL ON CAYLEY TREE OF ARBITRARY ORDER**
UGUZ SELMAN, GANIKHODJAEV NASIR, AKIN HASAN, TEMIR SEYIT
International Journal of Modern Physics C, <http://www.worldscientific.com/doi/abs/10.1142/S0129183112500398>
- 38 Modulated Phase of a Potts Model with Competing Binary Interactions on a Cayley Tree**
Ganikhodjaev Nasir, TEMİR SEYİT, AKIN HASAN
Journal of Statistical Physics, <http://dx.doi.org/10.1007/s10955-009-9869-z>
- 39 Modulated Phase of an Ising System with Quinary and Binary Interactions on a Cayley Tree-like Lattice: Rectangular Chandelier**

- 39 UĞUZ SELMAN, AKIN HASAN
Chinese Journal of Physics,https://www.academia.edu/22230197/Modulated_Phase_of_an_Ising_System_with_Quinary_and_Binary_Interactions_on_a_Cayley_Tree_like_Lattice_Rectangular_Chandelier
- 40 **New disordered phases of the $(s,1/2)$ -mixed spin Ising model for arbitrary spin s**
AKIN HASAN
Chaos, Solitons and Fractals,<https://doi.org/10.1016/j.chaos.2024.115733>
- 41 **New Gibbs measures of the Ising model on a Cayley tree in the presence of triple effective local external fields**
AKIN HASAN
Physica B: Condensed Matter,<http://dx.doi.org/10.1016/j.physb.2022.414221>
- 43 **ON 1D REVERSIBLE CELLULAR AUTOMATA WITH REFLECTIVE BOUNDARY OVER THE PRIME FIELD OF ORDER p**
AKIN HASAN, ŞİAP İRFAN, Şah Ferhat
INTERNATIONAL JOURNAL OF MODERN PHYSICS C,<http://www.worldscientific.com/doi/abs/10.1142/S0129183111017020>
- ON 1D REVERSIBLE CELLULAR AUTOMATA WITH REFLECTIVE BOUNDARY OVER THE PRIME FIELD OF ORDER p**
AKIN HASAN, ŞİAP İRFAN, ŞAH FERHAT
International Journal of Modern Physics C,<http://www.worldscientific.com/doi/abs/10.1142/S0129183111017020>
- 44 **On asymptotically stability for positive L_1 -contractions of finite Jordan algebras,**
Mukhamedov Farrukh, TEMİR SEYİT, AKIN HASAN
Siberian Advances in Mathematics,
- 45 **On cellular automata over Galois rings**
AKIN HASAN, ŞİAP İRFAN
Information Processing Letters,<http://linkinghub.elsevier.com/retrieve/pii/S0020019007000373>
- 46 **On chaotic behaviour of the p -adic generalized Ising mapping and its application**
Mukhamedov Farrukh, AKIN HASAN, DOĞAN MUTLAY
Journal of Difference Equations and Applications,<http://dx.doi.org/10.1080/10236198.2017.1340468>
- 47 **On Directional Entropy of a Z_2 -Action**
AKIN HASAN
International Journal of Applied Mathematics Mechanics,https://www.researchgate.net/profile/Hasan-Akin/publication/242361581_ON_DIRECTIONAL_ENTROPY_OF_A_Z2ACTION/links/0deec527e3c251d485000000/ON-DIRECTIONAL-ENTROPY-OF-A-Z2ACTION.pdf
- 48 **On Gibbs Measures of the Potts Model with Three Competing Interactions on Cayley Tree of Order 3**
AKIN HASAN, SAYGILI HALİT
Acta Physica Polonica A,<https://doi.org/10.12693/aphyspola.129.845>
- 49 **On infinite dimensional quadratic Volterra operators**
Mukhamedov Farrukh, AKIN HASAN, TEMİR SEYİT

- 49 Journal of Mathematical Analysis and Applications,<http://linkinghub.elsevier.com/retrieve/pii/S0022247X05001198>
- 50 **On mixing and completely mixing properties of positive L^1 - contractions of finite real W^* -algebras**
Rahimov A, AKIN HASAN
Methods of Functional Analysis and Topology,
- 51 **On mixing and completely mixing properties of positive \mathbb{R}^1 -contractions of finite von Neumann algebras**

Mukhamedov Farrukh, TEMİR SEYİT, AKIN HASAN
PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY,<http://dx.doi.org/10.1090/s0002-9939-05-08072-x>
- 52 **On non Archimedean recurrence equations and their applications**
Mukhamedov Farrukh, Akin Hasan
Journal of Mathematical Analysis and Applications,<http://linkinghub.elsevier.com/retrieve/pii/S0022247X14009731>
- 53 **On one dimensional penta-cyclic rule cellular automata**
ŞİAP İRFAN,AKIN HASAN
AWER Procedia Information Technology Computer Science,
- 54 **On phase transitions of the Potts model with three competing interactions on Cayley tree**
AKIN HASAN, TEMİR SEYİT
CONDENSED MATTER PHYSICS,
- 55 **On Pseudo Random Bit Generators via Two-Dimensional Hybrid Cellular Automata**
TEMİZ FATİH, ŞİAP İRFAN, AKIN HASAN
Acta Physica Polonica A,<https://doi.org/10.12693/aphyspola.125.534>
- 56 **On quantum quadratic operators of $M_2(\mathbb{C})$ and their dynamics**
Mukhamedov Farrukh, AKIN HASAN, TEMİR SEYİT, Abduganiev Abduaziz
Journal of Mathematical Analysis and Applications,<http://dx.doi.org/10.1016/j.jmaa.2010.10.047>
- 57 **On stability properties of positive contractions of L^1 -spaces associated with finite von Neumann algebras**
Mukhamedov Farrukh, AKIN HASAN, TEMİR SEYİT
Colloquium Mathematicum,<http://dx.doi.org/10.4064/cm105-2-7>
- 58 **On strong mixing property of cellular automata with respect to Markov measures**
AKIN HASAN
General Mathematics,https://www.emis.de/journals/GM/vol18nr4/02_Akin/02_Akin.pdf
- 59 **On the directional entropy of \mathbb{Z}^2 -actions generated by additive cellular automata**
AKIN HASAN
APPLIED MATHEMATICS AND COMPUTATION,<http://dx.doi.org/10.1016/j.amc.2004.11.032>
- 60 **On the ergodic principle for Markov and quadratic stochastic processes and its relations**

- 60 Ganikhodjaev Nasir, AKIN HASAN, Mukhamedov Farrukh
LINEAR ALGEBRA AND ITS APPLICATIONS,<http://dx.doi.org/10.1016/j.laa.2005.12.032>
- 61 **On the ergodic properties of certain additive cellular automata over $\mathbb{Z}(m)$**
AKIN HASAN
APPLIED MATHEMATICS AND COMPUTATION,
- 62 **On the irreversibility of Moore cellular automata over the ternary field and image application**
UĞUZ SELMAN, AKIN HASAN, ŞİAP İRFAN
Applied Mathematical Modelling,<http://dx.doi.org/10.1016/j.apm.2016.04.027>
- 63 **On the Measure Entropy of Additive Cellular Automata f^∞**
AKIN HASAN
Entropy,<http://dx.doi.org/10.3390/e5020233>
- 64 **On the Periodicity of the Rational Dynamical System Corresponding to the Vannimenus–Ising Model**
AKIN HASAN
Journal of Computational and Nonlinear Dynamics,<http://dx.doi.org/10.1115/1.4056133>
- 65 **On the topological directional entropy**
AKIN HASAN
Journal of Computational and Applied Mathematics,<http://dx.doi.org/10.1016/j.cam.2008.08.012>
- 66 **On the topological entropy function for amenable group actions**
TEMİR SEYİT, AKIN HASAN
Marmara University Journal of Science,
- 67 **One-Dimensional Cellular Automata with Reflective Boundary Conditions and Radius Three**
AKIN HASAN, ŞİAP İRFAN, UĞUZ SELMAN
Acta Physica Polonica A,<https://doi.org/10.12693/aphyspola.125.405>
- 68 **Orthogonality preserving infinite dimensional quadratic stochastic operators**
AKIN HASAN, Mukhamedov Farrukh
Aip Conference Proceeding,<http://dx.doi.org/10.1063/1.4930434>
- 69 **Phase diagram and extreme Gibbs measures of the Ising model on a Cayley tree in the presence of competing binary and ternary interactions**
Ganikhodjaev Nasir, AKIN HASAN, UĞUZ SELMAN, TEMİR SEYİT
PHASE TRANSITIONS,<http://dx.doi.org/10.1080/01411594.2011.579395>
- 70 **Phase diagrams of an Ising system with competing binary prolonged ternary and next-nearest interactions on a Cayley tree, (JCAAM), 9 (1), (2011), 26-34.**
Ganikhodjaev Nasir, AKIN HASAN, UĞUZ SELMAN, TEMİR SEYİT
Journal of Concrete and Applicable Mathematics,<http://www.eudoxuspress.com/images/TOC-VOL-9--2011--JCAAM.pdf>
- 71 **Phase diagrams of competing quadruple and binary interactions on Cayley tree-like lattice: Triangular Chandelier**

- 71 UĞUZ SELMAN, AKIN HASAN
PHYSICA A-STATISTICAL MECHANICS AND ITS APPLICATIONS,
- 72 **Phase diagrams of lattice models on Cayley tree and chandelier network: a review**
AKIN HASAN
Condensed Matter Physics,<http://dx.doi.org/10.5488/cmp.25.32501>
- 73 **Phase transition analysis of the Potts-SOS model with spin set $\{-1,0,+1\}$ on the Cayley tree**
AKIN HASAN
Physica Scripta,<https://doi.org/10.1088/1402-4896/ad88b5>
- 74 **Phase transition and Gibbs measures of Vannimenus model on semi-infinite Cayley tree of order three**
AKIN HASAN
International Journal Modern Physics B,<http://dx.doi.org/10.1142/s021797921750093x>
- 75 **Phase transition for the Ising model with mixed spins on a Cayley tree**
AKIN HASAN,Mukhamedov Farrukh
Journal of Statistical Mechanics: Theory and Experiment,<https://doi.org/10.1088/1742-5468/ac68e4>
- 76 **Phase transition for the p adic Ising Vannimenus model on the Cayley tree**
Mukhamedov Farrukh, Dogan Mutlay, Akin Hasan
Journal of Statistical Mechanics: Theory and Experiment,<http://stacks.iop.org/1742-5468/2014/i=10/a=P10031?key=crossref.a2e13e90709fdf51333f3f328f34b7e9>
- 77 **Phase transition of p-adic Ising λ -model**
DOĞAN MUTLAY, AKIN HASAN, Mukhamedov Farrukh
Aip Conference Proceeding,<http://dx.doi.org/10.1063/1.4930456>
- 78 **Phase transition of the Potts model with three competing interactions on Cayley tree of order 3**
AKIN HASAN, SAYGILI HALİT
Aip Conference Proceeding,<http://dx.doi.org/10.1063/1.4930452>
- 79 **Phase transitions for p adic Potts model on the Cayley tree of order three**
Mukhamedov Farrukh, Akin Hasan
Journal of Statistical Mechanics: Theory and Experiment,<http://stacks.iop.org/1742-5468/2013/i=07/a=P07014?key=crossref.479c8334538fc82ec9c6320e2f974f0c>
- 80 **Potts Model with Simplest Modulated Phase**
Ganikhodjaev Nasir, Temir Seyit, Akin Hasan, Uguz Selman
Journal of Korean Physical Society,<http://jkps.kps.or.kr/home>
- 81 **Potts Model with the Simplest Modulated Phase**
Ganikhodjaev Nasir, TEMİR SEYİT, AKIN HASAN, UĞUZ SELMAN, Ganikhodjaev Nasir
JOURNAL OF THE KOREAN PHYSICAL SOCIETY,<http://dx.doi.org/10.3938/jkps.59.2971>
- 82 **Potts model with two competing binary interactions**
Ganikhodjaev Nasir, TEMİR SEYİT, AKIN HASAN

- 82 TURKISH JOURNAL OF MATHEMATICS,
- 83 **q-state modified Potts model on a Cayley tree and its phase transition in antiferromagnetic region**
AKIN HASAN
Chaos, Solitons & Fractals, <https://doi.org/10.1016/j.chaos.2025.116746>
- 84 **Quantitative behavior of (1,1/2)-MSIM on a Cayley tree**
AKIN HASAN
Chinese Journal of Physics, <http://dx.doi.org/10.1016/j.cjph.2023.04.014>
- 86 **REVERSIBILITY ALGORITHMS FOR 3 STATE HEXAGONAL CELLULAR AUTOMATA WITH PERIODIC BOUNDARIES**
UĞUZ SELMAN, AKIN HASAN, ŞİAP İRFAN
International Journal of Bifurcation and Chaos, <http://www.worldscientific.com/doi/abs/10.1142/S0218127413501010>
- REVERSIBILITY ALGORITHMS FOR 3 STATE HEXAGONAL CELLULAR AUTOMATA WITH PERIODIC BOUNDARIES**
UGUZ SELMAN, AKIN HASAN, SIAP IRFAN
International Journal of Bifurcation and Chaos, <http://www.worldscientific.com/doi/abs/10.1142/S0218127413501010>
- 88 **REVERSIBILITY ALGORITHMS FOR 3-STATE HEXAGONAL CELLULAR AUTOMATA WITH PERIODIC BOUNDARIES**
UĞUZ SELMAN, AKIN HASAN, ŞİAP İRFAN
International Journal of Bifurcation and Chaos, <http://dx.doi.org/10.1142/s0218127413501010>
- REVERSIBILITY ALGORITHMS FOR 3-STATE HEXAGONAL CELLULAR AUTOMATA WITH PERIODIC BOUNDARIES**
UĞUZ SELMAN, AKIN HASAN, ŞİAP İRFAN
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, <http://dx.doi.org/10.1142/s0218127413501010>
- 90 **REVERSIBLE CELLULAR AUTOMATA WITH PENTA CYCLIC RULE AND ECCs**
ŞİAP İRFAN, AKIN HASAN, KÖROĞLU MEHMET EMİN
INTERNATIONAL JOURNAL OF MODERN PHYSICS C, <http://www.worldscientific.com/doi/abs/10.1142/S0129183112500660>
- REVERSIBLE CELLULAR AUTOMATA WITH PENTA CYCLIC RULE AND ECCs**
SIAP IRFAN, AKIN HASAN, KOROGLU MEHMET E.
International Journal of Modern Physics C, <http://www.worldscientific.com/doi/abs/10.1142/S0129183112500660>
- 91 **REVERSIBLE CELLULAR AUTOMATA WITH PENTA-CYCLIC RULE AND ECCs**
ŞİAP İRFAN, AKIN HASAN, KÖROĞLU MEHMET EMİN
International Journal of Modern Physics C, <http://dx.doi.org/10.1142/s0129183112500660>
- 92 **Reversibility of 1D Cellular Automata with Periodic Boundary over Finite Fields $Z(p)$**
ÇINKIR ZÜBEYİR, AKIN HASAN, ŞİAP İRFAN
JOURNAL OF STATISTICAL PHYSICS,

- 93 Reversibility of 1D Cellular Automata with Periodic Boundary over Finite Fields** pmb mathbb Z p
ÇINKIR ZÜBEYİR, AKIN HASAN, ŞİAP İRFAN
Journal of Statistical Physics, <http://link.springer.com/10.1007/s10955-011-0202-2>
- 94 Reversibility of a Family of 2D Cellular Automata Hybridized by Diamond and Cross Rules Over Finite Fields and an Application to Visual Cryptography**
Şah Ferhat, TEMİZ FATİH, AKIN HASAN
Journal of Cellular Automata,
- 95 Reversibility Problem of Multidimensional Finite Cellular Automata**
Chih-Hung Chang, Su Jing-Yi, AKIN HASAN, ŞAH FERHAT
Journal of Statistical Physics, <https://doi.org/10.1007/s10955-017-1799-6>
- 96 Self-Replicating Patterns in 2D Linear Cellular Automata**
UĞUZ SELMAN, Şahin Uğur, AKIN HASAN, ŞİAP İRFAN
International Journal of Bifurcation and Chaos, <https://doi.org/10.1142/s021812741430002x>
- 97 Some ergodic properties of invertible cellular automata Volume**
Chih-Hung Chang, AKIN HASAN
Journal of Cellular Automata, <http://www.oldcitypublishing.com/journals/jca-home/jca-issue-contents/jca-volume-11-number-2-3-2016/jca-11-2-3-p-247-261/>
- 98 Strange Attractors in the Vannimenus Model on an Arbitrary Order Cayley Tree**
Ganikhodjaev Nasir, Akin Hasan, Temir Seyit, Uğuz Selman, Nawi Ashraf Mohamed
Journal of Physics: Conference Series, <http://stacks.iop.org/1742-6596/435/i=1/a=012031?key=crossref.ae39fd52d82be6f4badd68c3eba80425>
- 99 Structure and reversibility of 2D hexagonal cellular automata**
ŞİAP İRFAN, AKIN HASAN, UĞUZ SELMAN
Computers & Mathematics with Applications, <http://dx.doi.org/10.1016/j.camwa.2011.09.066>
- 10 Structure and Reversibility of 2D von Neumann Cellular Automata Over Triangular Lattice**
0 UĞUZ SELMAN, Redjepov Sh.B., ACAR ECEM, AKIN HASAN
International Journal of Bifurcation and Chaos, <http://dx.doi.org/10.1142/s0218127417500833>
- 10 The algebraic entropy of one-dimensional finitary linear cellular automata**
1 AKIN HASAN, Dikranjan Dikran, Giordano Bruno Anna, Teller Daniele
Journal of Group Theory, <https://doi.org/10.1515/jgth-2023-0092>
- 10 The classification of disordered phases of mixed spin (2,1/2) Ising model and the chaoticity of the corresponding dynamical system**
2 AKIN HASAN
CHAOS SOLITONS & FRACTALS, <http://dx.doi.org/10.1016/j.chaos.2022.113086>
- 10 The Entropy and Reversibility of Cellular Automata on Cayley Tree**
3 AKIN HASAN, Chih-Hung Chang
International Journal of Bifurcation and Chaos, <http://dx.doi.org/10.1142/s0218127420500613>

- 10
4 **The entropy for expansive subshifts of finite type**
AKIN HASAN, TEMİR SEYİT
Fırat Üniversitesi Mühendislik Bilimleri Dergisi,
- 10
5 **The Entropy of Linear Cellular Automata with Respect to Any Bernoulli Measure**
AKIN HASAN
Complex Systems,<http://dx.doi.org/10.25088/complexsystems.18.2.237>
- 10
6 **The exact solution of the Potts models with external magnetic field on the Cayley tree,**
Ganikhodjaev Nasir, TEMİR SEYİT, AKIN HASAN
CUBO, A Mathematical Journal,<https://cubo.ufro.cl/ojs/index.php/cubo/article/view/1534/1388>
- 10
7 **The exact solution of the three-state Potts model with competing interactions on the Cayley Tree**
Ganikhodjaev Nasir, TEMİR SEYİT, AKIN HASAN
Uzbek Mathematical Journal,
- 10
8 **The extremality of disordered phases for the mixed spin-(1,1/2) Ising model on a Cayley tree of arbitrary order**
AKIN HASAN, Mukhamedov Farrukh
Journal of Statistical Mechanics: Theory and Experiment,<https://doi.org/10.1088/1742-5468/ad1be2>
- 10
9 **The Measure-Theoretic Entropy of Linear Cellular Automata with Respect to a Markov Measure**
AKIN HASAN
BULLETIN OF THE MALAYSIAN MATHEMATICAL SCIENCES SOCIETY,
- 11
0 **The p-adic Potts model on the Cayley tree of order three**
Mukhamedov Farrukh, AKIN HASAN
Theoretical and Mathematical Physics,<http://dx.doi.org/10.1007/s11232-013-0105-2>
- 11
1 **The Periodic Gibbs States for Potts Model with Competing Interactions on the Cayley Tree**
AKIN HASAN, TEMİR SEYİT
International Journal of Applied Mathematics Mechanics,
- 11
2 **The qualitative properties of 1D mixed-type Potts-SOS model with 1-spin and its dynamical behavior**
AKIN HASAN
Physica Scripta,<http://dx.doi.org/10.1088/1402-4896/ad3a29>
- 11
3 **THE REVERSIBILITY OF $(2r+1)$ CYCLIC RULE CELLULAR AUTOMATA**
ŞİAP İRFAN, AKIN HASAN, Köroğlu Mehmet Emin
Turkic World Mathematical Society (TWMS) Journal of Pure and Applied Mathematics,
- 11
4 **The reversibility problem for a family of two-dimensional cellular automata**
Köroğlu Mehmet Emin, ŞİAP İRFAN, AKIN HASAN
TURKISH JOURNAL OF MATHEMATICS,<https://doi.org/10.3906/mat-1503-18>

- 11**
5 **The topological entropy of invertible cellular automata**
AKIN HASAN
Journal of Computational and Applied
Mathematics,<http://linkinghub.elsevier.com/retrieve/pii/S0377042707000684>
- 11**
6 **The topological entropy of nth iteration of an additive cellular automata**
AKIN HASAN
APPLIED MATHEMATICS AND COMPUTATION,
- 11**
7 **The Transition Rules of 2D Linear Cellular Automata Over Ternary Field and Self-Replicating Patterns**
Şahin Uğur, UĞUZ SELMAN, AKIN HASAN
International Journal of Bifurcation and Chaos,<http://dx.doi.org/10.1142/s021812741550011x>
- 11**
8 **Three state von Neumann cellular automata and pattern generation**
Şahin Uğur, UĞUZ SELMAN, AKIN HASAN, ŞİAP İRFAN
Applied Mathematical Modelling,<http://linkinghub.elsevier.com/retrieve/pii/S0307904X14004983>
- 11**
9 **Topological and metric entropies of the some class of quadratic stochastic operators on finite-dimensional simplexes**
Ganikhodjaev Nasir, AKIN HASAN, TEMİR SEYİT
Uzbek Mathematical Journal,
- 12**
0 **Topological entropy of the symbolic dynamic system obtained by weak interaction, 16, 127-132 (2000).**
AKIN HASAN
Marmara Univ. Journal of Sciences,
- 12**
1 **Transient and cycle structure of elementary rule 150 with reflective boundary**
Akin Hasan, Şiap İrfan, Köroğlu Mehmet E.
American Institute of Physics,
- 12**
2 **Two dimensional cellular automata with nearest and prolonged next nearest neighborhoods under periodic boundary**
AKIN HASAN,ŞİAP İRFAN,UĞUZ SELMAN
AWER Procedia Information Technology and Computer
Science,https://www.researchgate.net/publication/370579406_Two_dimensional_cellular_automata_with_nearest_and_prolonged_next_nearest_neighborhoods_under_periodic_boundary#fullTextFileContent
- 12**
3 **UPPER BOUND OF THE DIRECTIONAL ENTROPY OF A Z(2)-ACTION**
AKIN HASAN
INTERNATIONAL JOURNAL OF MODERN PHYSICS C,<https://doi.org/10.1142/S0129183111016555>
- 12**
4 **Using new approaches to obtain Gibbs measures of Vannimenus model on a Cayley tree**
AKIN HASAN
Chinese Journal of Physics,<http://dx.doi.org/10.1016/j.cjph.2016.07.010>

Bildiriler (YOKSIS)

- 1 2-dimensional reversible hexagonal cellular automata with periodic boundary**
AKIN HASAN, ŞİAP İRFAN, UĞUZ SELMAN
2nd International Advances in Applied Physics and Materials Science (APMAS 2012) ,
- 2 A family of two dimensional hybrid cellular automata and its applications to pseudo random number generators**
TEMİZ FATİH, ŞİAP İRFAN, AKIN HASAN, KÖROĞLU MEHMET EMİN
2nd World Conference on Information Technology ,
- 3 Behavior of the phase diagrams of Potts model on Cayley tree for order three**
TEMİR SEYİT, Ganikhodjaev Nasir, UĞUZ SELMAN, AKIN HASAN
2nd International Advances in Applied Physics and Materials Science (APMAS 2012), 26-29 Nisan 2012, Antalya. ,
- 4 Behaviors of Phase Diagrams of an Ising Model on a Cayley Tree-Like Lattice: Rectangular Chandelier,**
AKIN HASAN, UĞUZ SELMAN, TEMİR SEYİT
8th International Conference of Numerical Analysis and Applied Mathematics ICNAAM 2010 ,
- 5 Behaviors of phase diagrams of Ising model with competing ternary and binary interactions on a Cayley tree of arbitrary order**
AKIN HASAN, Ganikhodjaev Nasir, UĞUZ SELMAN, TEMİR SEYİT
Advances in Applied Physics and Materials Science Congress (apmas2011) ,
- 6 Cellular automata based byte error correcting codes over finite fields**
KÖROĞLU MEHMET EMİN, ŞİAP İRFAN, AKIN HASAN
First International Conference on Analysis and Applied Mathematics (ICAAM 2012) ,
- 7 Cellular Automata Based Byte Error Correcting Codes over Ternary Fields,**
KÖROĞLU MEHMET EMİN, ŞİAP İRFAN, AKIN HASAN
International Conference On Applied Analysis And Algebra (ICAAA 2012) ,
- 8 Characterization of 2D cellular automata with Moore neighborhood over ternary fields,**
AKIN HASAN, UĞUZ SELMAN, ŞİAP İRFAN
ICNAAM 2011 ,
- 9 Characterization of three dimensional cellular automata over Z_m ,**
ŞAH FERHAT, ŞİAP İRFAN, AKIN HASAN
First International Conference on Analysis and Applied Mathematics (ICAAM 2012) ,
- 10 Characterization Of Three Dimensional Cellular Automata With Periodic Boundary Over $Z_{\{m\}}$,**
ŞAH FERHAT, AKIN HASAN, TAŞÇI FATİH
ICAA-2016 International Conference on Analysis and Its Applications (ICAA-2016) ,
- 11 Characterization of two dimensional Cellular automata over ternary fields**
ŞİAP İRFAN, AKIN HASAN, ŞAH FERHAT
Third International Conference on Modeling, Simulation and Applied Optimzation (ICMSAO09) ,

- 12 Classification of Periodic and Adiabatic Boundary Cellular Automata over GF (2) and Applications of Image Processing**
UĞUZ SELMAN, Şahin Uğur, AKIN HASAN, ŞİAP İRFAN
3rd International Advances in Applied Physics & Materials Science Congress (APMAS2013) ,
- 13 Construction of the Gibbs measures of mixed spin Ising 1 model on a Cayley tree by self-similarity method**
AKIN HASAN
The International Conference & Exhibition for Science (ICES2023) , <https://www.ices-ksa.org/index.php?p=special-issue>
- 14 Construction of the Gibbs measures of mixed spin Ising model on a Cayley tree by self-similarity method**
AKIN HASAN
The International Conference & Exhibition for Science (ICES2023) , https://drive.google.com/file/d/14sv4dctgLdUUI7QPu1ao9IJ76Rx66b_D/view
- 15 Description of extreme Gibbs measures for the Ising model with three interactions**
AKIN HASAN, Ganikhodjaev Nasir, TEMİR SEYİT, UĞUZ SELMAN
2nd International Advances in Applied Physics and Materials Science (APMAS 2012) ,
- 16 Existence of the generalized p-adic quasi Gibbs measures for p-adic Ising -lambda-model on the Cayley tree**
DOĞAN MUTLAY, AKIN HASAN, Mukhamedov Farrukh
APMAS 2015 5th International Advances In Applied Physics And Materials Science Congress & Exhibition ,
- 17 Gibbs measures for the Potts-SOS model with four states on Cayley tree of order arbitrary**
SAYGILI HALİT, AKIN HASAN
ICAA-2016 International Conference on Analysis and Its Applications (ICAA-2016) ,
- 18 Gibbs states of the Potts model with competing interactions on Bethe lattice order three**
SAYGILI HALİT, AKIN HASAN
APMAS 2015 5th International Advances In Applied Physics And Materials Science Congress & Exhibition ,
- 19 Hybrid quadratic cellular automata and its applications to pseudo random number generators**
KÖROĞLU MEHMET EMİN, ŞİAP İRFAN, AKIN HASAN, TEMİZ FATİH
2nd World Conference on Information Technology ,
- 20 L'entropia algebrica dei linear cellular automata sullo spazio delle configurazioni finite**
AKIN HASAN, Dikranjan Dikran, Giordano Bruno Anna, Teller Daniele
TEORIA DEI GRUPPI A PAESTUM, 6-7 June 2023, page 31. , <https://drive.google.com/file/d/1iYuMfKRHcguLwx1gGeJGX5QnhlxXmSem/view>
- 21 MIXED-SPIN ISING MODELS ON SEMI-INFINITE CAYLEY TREES: EXPLORING GIBBS MEASURES, DISORDERED PHASES, AND PHASE TRANSITIONS**
AKIN HASAN
INTERNATIONAL CONFERENCE STOCHASTIC ANALYSIS ,
- 22 Modulated Phase of an Ising System with Competing Interactions on a Cayley Tree of Arbitrary Order**

- 22 UĞUZ SELMAN, Ganikhodjaev Nasir, TEMİR SEYİT, AKIN HASAN
8th International Conference of Numerical Analysis and Applied Mathematics ICNAAM 2010 ,
- 23 **N. Ganikhodjaev, H. Akin, S. Temir, S. Uguz, and A. M. Nawi, Strange Attractors in the Vannimenus Model on an Arbitrary Order Cayley Tree,**
Ganikhodjaev Nasir, AKIN HASAN, TEMİR SEYİT, UĞUZ SELMAN
International Conference of Application Science & Technology (IIUM iCAST 2012) Contemporary Mathematics, Mathematical Physics and Applications ,
- 24 **Non-regular hexagonal cellular automata over the field Z_3**
AKIN HASAN, ŞİAP İRFAN, UĞUZ SELMAN
ICMS International Conference on Mathematical Sciences 2010 ,
- 25 **On 1D reversible cellular automata with reflective boundary over finite fields Z_p**
ŞAH FERHAT, AKIN HASAN, ŞİAP İRFAN
International Conference on Applied Analysis and Algebra ,
- 26 **On One Dimensional $2r+1$ -Cyclic Rule Cellular automata**
ŞİAP İRFAN, AKIN HASAN, KÖROĞLU MEHMET EMİN
1st International Eurasian Conference on Mathematical Sciences and Applications (IECMSA) ,
- 27 **On p-adic Ising Model with Competing Interactions on the Cayley Tree**
Mukhamedov Farrukh, AKIN HASAN, DOĞAN MUTLAY
International Congress in Honour of Professor Ravi P. Agarwal ,
- 28 **On pure phases of the Vannimenus model**
Ganikhodjaev Nasir, UĞUZ SELMAN, AKIN HASAN, TEMİR SEYİT
ICMS International Conference on Mathematical Sciences 2010 ,
- 29 **On the asymptotic behavior of thermodynamic quantities of Ising model with mixed spin $(s, (2t-1)/2)$ on a Cayley tree by self-similarity method**
AKIN HASAN
Thermodynamic Formalism: Non-additive Aspects and Related Topics ,
<https://www.impan.pl/en/activities/banach-center/conferences/23-thermoform/program>
- 30 **On the structure of hexagonal cellular automata with reflective boundary over the primitive field Z_p**
AKIN HASAN, ŞİAP İRFAN, UĞUZ SELMAN
2nd International Eurasian Conference on Mathematical Sciences and Applications (iecmsa-2013) ,
- 31 **One Dimensional Cellular Automata with Reflective Boundary Conditions and Arbitrary Radius**
AKIN HASAN, ŞİAP İRFAN, UĞUZ SELMAN
3rd International Advances in Applied Physics & Materials Science Congress (APMAS2013) ,
- 32 **One dimensional penta-cyclic rule cellular automata with periodic boundary over finite fields with p elements**
ŞİAP İRFAN, AKIN HASAN
2nd World Conference on Information Technology ,
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- 33 AKIN HASAN, Mukhamedov Farrukh
International Conference on Advancements in Mathematical Sciences ,
- 34 **p-adic Gibbs measures for the Ising-Vannimenus model on Cayley tree of order three**
DOĞAN MUTLAY, AKIN HASAN
ICAA-2016 International Conference on Analysis and Its Applications (ICAA-2016), July, 12-15, 2016, Kirsehir/Turkey ,
- 35 **p-Adic Ising λ -Model on the Cayley Tree**
Mukhamedov Farrukh, AKIN HASAN, DOĞAN MUTLAY
3rd International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2014) ,
- 36 **Periodic extreme Gibbs measures with memory length 2 of Vannimenus model**
AKIN HASAN, Ganikhodjaev Nasir, UĞUZ SELMAN, TEMİR SEYİT
ICNAAM 2011 ,
- 37 **Phase Diagrams of a Potts Model with Competing Binary and Ternary Interactions**
TEMİR SEYİT, Ganikhodjaev Nasir, AKIN HASAN, UĞUZ SELMAN
8th International Conference of Numerical Analysis and Applied Mathematics ICNAAM 2010 ,
- 38 **Phase diagrams of an Ising system with competing binary, prolonged ternary and next-nearest interactions on a Cayley tree**
Ganikhodjaev Nasir, AKIN HASAN, UĞUZ SELMAN, TEMİR SEYİT
3rd International Interdisciplinary Chaos Symposium on Chaos and Complex Systems ,
- 39 **Phase diagrams of Ising models on Cayley tree-like lattices: Triangular Chandelier (as Invited Speaker)**
AKIN HASAN
Mathematics Colloquium ,
- 40 **Phase Transition of p-adic Ising λ -Model**
DOĞAN MUTLAY, AKIN HASAN, Mukhamedov Farrukh
International Conference on Advancements in Mathematical Sciences ,
- 41 **Phase transition of the Potts model with three competing interactions on Cayley tree of order 3**
SAYGILI HALİT, AKIN HASAN
International Conference on Advancements in Mathematical Sciences ,
- 42 **Pseudo Random Bit Generation by Using Two Dimensional Linear Hybrid Cellular Automata (LHCA) with respect to Periodic & Adiabatic Boundary**
ŞİAP İRFAN, TEMİZ FATİH, AKIN HASAN
3rd International Advances in Applied Physics & Materials Science Congress (APMAS2013) ,
- 43 **Reversibility of 1D cellular automata with reflective boundary conditions and arbitrary radius,**
AKIN HASAN, UĞUZ SELMAN
International Congress of Mathematicians, August 13-21, 2014, Coex , Seoul , Korea, pp. 320-321. (SC09-11-01) ,
- 44 **Structure and Reversibility of 2-dimensional Hexagonal Cellular Automata**

- 44 AKIN HASAN,ŞİAP İRFAN,UĞUZ SELMAN
ICMS INTERNATIONAL CONFERENCE ON MATHEMATICAL SCIENCE ,
<https://doi.org/10.1063/1.3525111>
- 45 **The competing binary and ternary interactions on a Cayley tree-like lattice: pentagonal chandelier**
UĞUZ SELMAN, AKIN HASAN, TEMİR SEYİT, Ganikhodjaev Nasir
Advances in Applied Physics and Materials Science Congress (apmas2011) ,
- 46 **The entropy and reversibility of cellular automata on Cayley tree**
AKIN HASAN
The Algerian-Turkish International days on Mathematics 2013 ,
- 47 **The extremality of disordered phase for the Ising model with mixed spin-1 and spin-1/2 on Cayley Tree of arbitrary order**
AKIN HASAN, Mukhamedov Farrukh
The Third Italian Meeting on Probability and Mathematical Statistics ,
<https://site.unibo.it/probstat/en/program>
- 48 **The phase diagram for potts model with competing ternary and binary interactions on a Cayley tree**
TEMİR SEYİT, Ganikhodjaev Nasir, UĞUZ SELMAN, AKIN HASAN
3rdConference on Nonlinear Science and Complexity, (Cankaya Universitesi-3rd NSC Conference) ,
- 49 **The Reversibility Problem for a Special Family of 2D Cellular Automata**
KÖROĞLU MEHMET EMİN, ŞİAP İRFAN, AKIN HASAN
3rd International Eurasian Conference on Mathematical Sciences and Applications (IECMSA-2014) ,
- 50 **Transient and cycle structure of elementary rule 150 with reflective boundary**
AKIN HASAN, ŞİAP İRFAN, KÖROĞLU MEHMET EMİN
First International Conference on Analysis and Applied Mathematics (ICAAM 2012) ,
- 51 **Two dimensional cellular automata with nearest and prolonged next nearest neighborhoods under periodic boundary**
AKIN HASAN, ŞİAP İRFAN, UĞUZ SELMAN
2nd World Conference on Information Technology ,
- 52 **Two Dimensional Hybrid Cellular automata over ternary fields**
AKIN HASAN, ŞİAP İRFAN, ŞAH FERHAT
Third International Conference on Modeling, Simulation and Applied Optimzation (ICMSAO09) ,
- 53 **Two-dimensional cellular automata with nearest and prolonged next nearest neighborhoods**
AKIN HASAN, ŞİAP İRFAN, UĞUZ SELMAN
International Conference on Applied Analysis and Algebra ,

