

## LIST OF MAIN PUBLICATIONS of Prof.Dr. Farrukh Mukhamedov

### 0.1. Refereed journal.

#### REFERENCES

##### [accepted papers]

- [1] MUKHAMEDOV F., AKIN H., On  $P$ -adic Potts model on the Cayley tree of order three, *Theor. Math. Phys.*
- [2] MUKHAMEDOV F., SABUROV, M., On Dynamics of Lotka-Volterra type operators, *Bull. Malay. Math. Sci. Soc.*
- [3] MUKHAMEDOV F., On  $L_1$ -Weak Ergodicity of nonhomogeneous discrete Markov processes and its applications, *Rev. Mat. Comput.*

##### [2013]

- [4] MUKHAMEDOV F., On Dobrushin Ergodicity Coefficient and weak ergodicity of Markov Chains on Jordan Algebras, *J. Phys.: Conf. Ser.* **435** (2013), 012002.
- [5] MUKHAMEDOV F., SABUROV M., QARALLEH I., Classification of  $\xi^{(s)}$ -Quadratic Stochastic Operators on 2D simplex, *J. Phys.: Conf. Ser.* **435** (2013), 012003.
- [6] GANIEV I., MUKHAMEDOV F., Measurable bundles of  $C^*$ -algebras over ideals, *J. Phys.: Conf. Ser.* **435** (2013), 012004.
- [7] MUKHAMEDOV F., ROZALI W.N.F.A.W., On a  $p$ -adic Cubic Generalized Logistic Dynamical System *J. Phys.: Conf. Ser.* **435** (2013), 012012.
- [8] MUKHAMEDOV F., SUPAR N.A., PAH CH. H., On quadratic stochastic processes and related differential equations, *J. Phys.: Conf. Ser.* **435** (2013), 012013.
- [9] MUKHAMEDOV F., ABDUGANIEV A., On bistochastic Kadison-Schwarz operators on  $M_2(C)$ , *J. Phys.: Conf. Ser.* **435** (2013), 012018.
- [10] ALI R., MUKHAMEDOV F., PAH CH. H., Ising Model with Competing Interactions on Cayley Tree of Order 4: An Analytic Solution, *J. Phys.: Conf. Ser.* **435** (2013), 012032.
- [11] MUKHAMEDOV F., On  $L_1$ -Weak Ergodicity of Markov processes, *Middle East J. Sci. Res.* **13** (2013), 64-69.
- [12] MUKHAMEDOV F., ABDUGANIEV A. On Kadison-Schwarz type quantum quadratic operators on  $M_2(C)$ , *Abst. Appl. Anal.* **2013**(2013), Article ID 278606, 9 p.
- [13] OSTILLI M., MUKHAMEDOV F. Continuous- and discrete-time Glauber dynamics. First- and second-order phase transitions in mean-field Potts models, *Euro. Phys. Lett.* **101** (2013) 60008.
- [14] MUKHAMEDOV F., OMIROV B., SABUROV M., MASUTOVA K. On solvability of cubic equations in the set of  $p$ -adic integers ( $p > 3$ ) *Siberian Math. Jour.* **54** (2013).
- [15] MUKHAMEDOV F., On dynamical systems and phase transitions for  $q + 1$ -state  $p$ -adic Potts model on the Cayley tree, *Math. Phys. Anal. Geom.* **16** (2013) 49–87.
- [16] MUKHAMEDOV F., Weak ergodicity of nonhomogeneous Markov chains on noncommutative  $L^1$ -spaces, *Banach J. Math. Anal.* **7** (2013) 53–73.
- [17] GANIEV I., MUKHAMEDOV F., On weighted ergodic theorems for Banach-Kantorovich lattice  $L_p(\nabla, \mu)$ , *Lobachevskii Jour. Math.* **34** (2013), N. 1, 1-10.
- [18] MUKHAMEDOV F., SABUROV M. On equation  $x^q = a$  over  $\mathbb{Q}_p$ , *J. Number Theor.* **133** (2013), 55-58.

##### [2012]

- [19] MUKHAMEDOV F., A dynamical system approach to phase transitions  $p$ -adic Potts model on the Cayley tree of order two, *Rep. Math. Phys.* **70** (2012), 385–406.
- [20] MUKHAMEDOV F., SABUROV, M., Weak and strong convergence of an implicit iterative process with errors for a finite family of asymptotically quasi  $I$ -nonexpansive mappings in Banach space, *Aust. J. Math. Anal. Appl.* **9** (2012) (arXiv: 1010.3089).
- [21] MUKHAMEDOV F., Existence of  $p$ -adic quasi Gibbs measure for countable state Potts model on the Cayley tree, *J. Inequal. Appl.* **2012**(2012), 104.
- [22] MUKHAMEDOV F., SABUROV M., On unification of strong convergence theorems of an explicit iteration process for a finite family of total asymptotically  $I$ -nonexpansive mappings in Banach spaces, *Jour. Appl. Math.* **2012** (2012), Article ID 281383, 22 p.
- [23] MUKHAMEDOV F., SABUROV M., JAMAL A.H.M., On dynamics of  $\xi^s$ -quadratic stochastic operators, *Inter. Jour. Modern Phys.: Conference Series* **9** (2012), 299–307.
- [24] MUKHAMEDOV F., SABUROV M., On discrete Lotka-Volterra type models, *Inter. Jour. Modern Phys.: Conference Series* **9** (2012), 341–346.

- [25] GANIKHODZHAEV R., MUKHAMEDOV F., SABUROV M.,  $G$ -decompositions of Matrices and Related Problems I, *Linear Algebra Appl.* **436** (2012), 1344-1366. (arXiv: 1010.5564).
- [26] MUKHAMEDOV F., On tensor products of weak mixing vector sequences and their applications to  $C^*$ -dynamical systems, *Bulltin Aust. Math. Soc.* **85**(2012), 46– 59 (arXiv: 1009.0583).
- [27] MUKHAMEDOV F. ROZIKOV U., On one polynomial  $p$ -adic dynamical system, *Ther. Math. Phys.* **170**(3)(2012), 377–384 (arXiv: 0712.4049).
- [2011]
- [28] MUKHAMEDOV F. Quantum Markov Chains on a Caylay tree, *Pertanika J. Sci. & Technol.*, **19**(S)(2011), 15–22.
- [29] MUKHAMEDOV F., SABUROV M., On Lotka-Volterra Evolution Law, *Adv. Stud. Biol.* **3** (2011), no. 4, 161 –167.
- [30] ACCARDI, L, MUKHAMEDOV F., SABUROV, M., On Quantum Markov Chains on Cayley tree II: Phase transitions for the associated chain with XY -model on the Cayley tree of order three, *Ann. Henri Poincare* **12** (2011), 1109-1144 (arXiv:1011.2256).
- [31] ACCARDI L., MUKHAMEDOV F., SABUROV, M., On Quantum Markov Chains on Cayley tree I: Uniqueness of the associated chain with XY-model on the Cayley tree of order two, *Inf. Dim. Anal. Quantum Probab. and Related Topics* **14**(2011), 443-463 (arXiv: 1004.3623) .
- [32] MUKHAMEDOV F., On dominant contractions and a generalization of the zero-two law, *Positivity* **15** (2011), 497–508 (arXiv: 1004.2103).
- [33] ACCARDI, L, MUKHAMEDOV F., SABUROV, M., Uniqueness of quantum Markov chains associated with an XY-model on the Cayley tree of order 2, *Math. Notes* **90** (2011), 8–20.
- [34] GANIKHODZHAEV R., MUKHAMEDOV F., ROZIKOV U., Quadratic stochastic operators and processes: results and open problems, *Inf. Dim. Anal. Quantum Probab. and Related Topics* **14**(2011) 279-335.
- [35] MUKHAMEDOV F., SABUROV, M., Weak convergence of an implicit iterative process with errors for an asymptotically quasi  $I$ –nonexpansive mapping in Banach spaces, *Asian-European Jour. Math.* **4** (2011) 309-319.
- [36] MUKHAMEDOV F., SABUROV, M., Phase transitions for XY-model on the Cayley tree of order three in Quantum Markov Chain scheme, *C. R. Acad. Sci. Paris, Ser. I* **349** (2011) 425-428.
- [37] MUKHAMEDOV, F., AKIN H, TEMIR S. ABDUGANIEV A. On quantum quadrtic operators on  $M_2(\mathbb{C})$  and their dynamics, *Jour. Math. Anal. Appl.* **376**(2011) 641–655 (arxiv: 0902.4500) (ISI).
- [38] MUKHAMEDOV F., SABUROV, M., On dynamical system relating to quantum Markov chain associated with Ising model on Cayley tree, *Aust. Jour. Basic Appl. Sci.* **5** (2011), N.3, 20–27.
- [2010]
- [39] MUKHAMEDOV F., SABUROV, M., A solution of variational inequality problem for a finite family of nonexpansive mappings in Hilbert spaces, *JP Jour. Fixed Point Theor. Appl.* **5**(2010), 157 – 170 (arXiv: 1005.4318) .
- [40] MUKHAMEDOV F., SABUROV, M., Strong convergence of an explicit iterative process for a totally asymptotically  $I$ –nonexpansive mappings in Banach spaces, *Appl. Math. Letters* **23**(2010), 1473–1478 (ISI).
- [41] MUKHAMEDOV F., ABDUGANIEV A., On description of bistochastic Kadison-Schwarz operators on  $M_2(\mathbb{C})$ , *Open Systems & Infor. Dynam.* **17**(2010), 245–253 (ISI).
- [42] FIDALEO, F., MUKHAMEDOV F., Ergodic properties of Bogoliubov automorphisms in free probability, *Inf. Dim. Anal. Quantum Probab. and Related Topics* **13**(2010), 393–411 (arXiv:0905.3026) (ISI).
- [43] MUKHAMEDOV F., On  $p$ -adic quasi Gibbs measures for  $q + 1$ -state Potts model on Cayley tree, *P-adic Numbers, Ultrametric Anal. Appl.* **2**(2010), 241–251.
- [44] ACCARDI, L., OHNO, H., MUKHAMEDOV F., Quantum Markov fields on graphs, *Inf. Dim. Anal. Quantum Probab. and Related Topics* **13**(2010) 165–185 (arXiv:0911.1667) (ISI).
- [45] KARIMOV, A., MUKHAMEDOV F., On martingal convergence theorems in  $JW$ - algebras, *Bull. Malaysian Math. Sci. Soc.* **33**(2010), 405–410 (ISI).
- [46] MUKHAMEDOV F., On strictly weak mixing  $C^*$ -dynamical systems and a weighted ergodic theorem, *Studia Sci. Math. Hungarica* **47**(2010), 155–174 (arXiv:0510314) (ISI).
- [47] KARIMOV, A., MUKHAMEDOV F., On limit theorems in  $JW$ - algebras, *Probab. Math. Statist.* **30**(2010), 153–165 (arXiv:0904.4070).
- [48] MUKHAMEDOV, F. TEMIR S., AKIN H., A note on dominant contractions of Jordan algebras, *Turkish Jour. Math.* **34**(2010) 85–93 (arXiv:0806.2926)(ISI).
- [49] MUKHAMEDOV F., SABUROV M., Weak and strong convergence of an implicit iteration process for an asyptotically quasi- $I$ -nonexpansive mapping in Banach space, *Fixed Point Theory Appl.* **2010**(2010), Article ID 719631, 13 p. (ISI)

- [50] MUKHAMEDOV F., SABUROV M., On homotopy of volterrian quadratic stochastic operator, *Appl. Math. & Inform. Sci.* **4**(2010) 47–62 (arXiv:0712.2891) (ISI).
- [2009]
- [51] KHRENNIKOV A.YU., MUKHAMEDOV F., On uniqueness of Gibbs measure for  $p$ -adic countable state Potts model on the Cayley tree, *Nonlin. Analysis: Theor. Methods Appl.* **71** (2009), 5327–5331. (ISI)
- [52] MUKHAMEDOV F., On existence of generalized Gibbs measures for one dimensional  $p$ -adic countable state Potts model, *Proc. Steklov Inst. Math.* **265** (2009), 165–176.(SCOPUS)
- [53] ACCARDI L., MUKHAMEDOV F., A note on noncommutative unique ergodicity and weighted means, *Linear Algebra Appl.* **430**(2009), 782–790 (arXiv:0803.0073) (ISI)
- [54] MUKHAMEDOV F., SABUROV M., On infinite dimensional Volterra type operators. *Jour. Appl. Funct. Anal.* **4** (2009), 580–588.
- [2008]
- [55] GANIKHODJAEV, N., MUKHAMEDOV, F., PAH C.H., Phase diagram of the three states Potts model with next nearest neighbour interactions on the Bethe lattice. *Phys. Lett. A* **373** (2008) 33–38 (arXiv:0803.2558). (ISI)
- [56] MUKHAMEDOV F., MUKHAMEDOV M, TEMIR S. On multiparameter weighted ergodic theorem for noncommutative  $L_p$ -spaces, *Jour. Math. Anal. Appl.* **343** (2008), 226–232 (arXiv:math/0611381) (ISI)
- [57] OSTILLI, M., MUKHAMEDOV F.M., MENDES J.F.F. Phase diagram of an Ising model with competitive interactions on a Husimi tree and its disordered counterpart, *Physica A* **387**(2008), 2777– 2792 (arXiv:cond-mat/0611654).(ISI)
- [58] MUKHAMEDOV F.M., On the chaotic behavior of cubic  $p$ -adic dynamical system, *Math. Notes* **43**(2008), N 3. 428–431.(SCOPUS)
- [2007]
- [59] KHRENNIKOV A.YU., MUKHAMEDOV F.M., MENDES J.F.F., On  $p$ -adic Gibbs measures of countable state Potts model on the Cayley tree, *Nonlinearity* **20**(2007), 2923–2937 (arXiv:0705.0244).(ISI)
- [60] MUKHAMEDOV, F. KARIMOV A., On noncommutative weighted local ergodic theorems, *Periodica Math. Hungarica*, **55** (2007), 2, 223–235. (arXiv: 0701415)
- [61] MUKHAMEDOV F.M., MENDES J.F.F., On the chaotic behavior of a generalized logistic  $p$ -adic dynamical system, *Jour. Diff. Eqs.* **243** (2007), 125–145 (arXiv: 0702697).
- [62] MUKHAMEDOV, F., On strictly weakly mixing  $C^*$ -dynamical systems, *Funct. Anal. Appl.* **27**(2007), 311–313.
- [63] GANIKHODJAEV N., MUKHAMEDOV F., On entropy transmission for quantum channels, *Appl. Math. & Inform. Sci.* **1** (2007), No. 3, 275–286 (arXiv: 0703245).
- [64] FIDALEO, F., MUKHAMEDOV, F., Strict weak mixing of some  $C^*$ -dynamical systems based on free shifts, *Jour. Math. Anal. Appl.* **336**(2007), 180–187 (arXiv: 0612025).
- [65] MUKHAMEDOV, F., TEMIR S., A few remarks on mixing properties of  $C^*$ -dynamical systems. *Rocky Mount. J. Math.* **37**(2007), 1685–1703 (arXiv: 0510337).
- [66] ACCARDI L., FIDALEO F., MUKHAMEDOV, F., Markov states and chains on the CAR algebra. *Infn. Dimens. Anal. Quantum Probab. Relat. Top.* **10**(2007), N.2, 165–183 (arXiv: 0411035 ).
- [67] MUKHAMEDOV F.M., ROZIKOV U.A., MENDES J.F.F., On contour arguments for the three state Potts model with competing interactions on a semi-infinite Cayley tree, *Jour. Math. Phys.* **48** (2007), No.1, 013301, 14 p.
- [68] MUKHAMEDOV, F., On a recursive equation over  $p$ -adic field, *Appl. Math. Lett.* **20**(2007), 88–92 (arXiv: 0605231 ).
- [2006]
- [69] GANIKHODJAEV N.N., MUKHAMEDOV F.M., MENDES J.F.F., On the three state Potts model with competing interactions on the Bethe lattice, *Jour. Stat. Mech.* 2006, P08012, 29 p (arXiv: 0607006).
- [70] GANIEV I., MUKHAMEDOV, F., On the "Zero-Two" law for positive contractions in the Banach-Kantorovich lattice  $L^p(\nabla, \mu)$ , *Comment. Math. Univ. Carolinae* **47** (2006), 427–436 (arXiv: 0510339).
- [71] GANIKHODJAEV N.N., AKIN H., MUKHAMEDOV, F., On the ergodic principle for Markov and quadratic Stochastic Processes and its relations, *Linear Algebra Appl.* **416**(2006), 730–741 (arXiv: 0511270).
- [72] MUKHAMEDOV, F. AKIN H., TEMIR S., On stability properties of positive contractions of  $L^1$ -spaces associated with finite von Neumann algebras, *Colloq. Math.* **105**(2006), 259–269 (arXiv: 0511321).
- [73] KHAMRAEV M., MUKHAMEDOV, F., On a class of rational  $p$ -adic dynamical systems, *Jour. Math. Anal. Appl.* **315**(2006), 76–89 (arXiv: 0511204).
- [74] MUKHAMEDOV, F. TEMIR S., AKIN H., On mixing and completely mixing properties of positive  $L^1$ -contractions of finite von Neumann algebras. *Proc. Amer. Math. Soc.* **134**(2006), No. 3, 843–850 (arXiv: 0510336).

**[2005]**

- [75] MUKHAMEDOV, F. TEMIR S., AKIN H., On asymptotically stability for positive  $L^1$ -contractions of finite Jordan algebras, *Siberian Adv. Math.* **15**(2005), No.3. 28–43.
- [76] MUKHAMEDOV F.M., On a condition for layer-Markov processes that ensures the ergodic principle for quantum quadratic processes. *Uzbek Math. Jour.* 2005, No.2, 27–34 (Russian).
- [77] MUKHAMEDOV, F. AKIN H., TEMIR S., On infinite dimensional quadratic Volterra operators, *Jour. Math. Anal. Appl.* **310**(2005), 533–556 (arXiv: 0510338).
- [78] MUKHAMEDOV, F. TEMIR S., A property of weak convergence of positive contractions of von Neumann algebras. *Turk. J. Math.* **29**(2005), No. 3, 315–321.
- [79] MUKHAMEDOV, F. ROZIKOV, U., On inhomogeneous  $p$ -adic Potts model on a Cayley tree. *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **8**(2005), No. 2, 277–290 (arXiv: 0510024).
- [80] MUKHAMEDOV, F., ROZIKOV, U., On Gibbs measures of models with competing ternary and binary interactions and corresponding von Neumann algebras. II. *Jour. Stat. Phys.* **119**(2005), No. 1-2, 427–446 (arXiv: 0510020).

**[2004]**

- [81] MUKHAMEDOV F.M., ROZIKOV U.A., On phase transitions of the Ising model with competing interactions on a Cayley tree. *Dokl. Akad. Nauk. Rep. of Uzb.* 2004, No. 3 , 5–8.
- [82] MUKHAMEDOV F.M., ROZIKOV U.A., On Gibbs measures of  $p$ -adic Potts model on the Cayley tree. *Dokl. Akad. Nauk. Rep. of Uzb.* 2004, No. 2 , 6–10.
- [83] FIDALEO, F. MUKHAMEDOV, F. Diagonalizability of non-homogeneous quantum Markov states and associated von Neumann algebras. *Probab. Math. Statist.* **24**(2004), N. 2, 401–418 (arXiv: 0411200).
- [84] GANIKHODZHAEV, N. N., MUKHAMEDOV, F. M., On some properties of a class of diagonalizable states of von Neumann algebras. *Math. Notes* **76**(2004), No. 3-4, 329–338.
- [85] KHAMRAEV M., MUKHAMEDOV F.M., ROZIKOV U.A. On uniqueness of Gibbs measure for  $p$ -adic  $\lambda$ -model on the Cayley tree, *Lett. Math. Phys.* **70**(2004), No. 1, 17–28 (arXiv: 0510021).
- [86] KHAMRAEV M., MUKHAMEDOV F.M., On  $p$ -adic  $\lambda$ -model on the Cayley tree, *Jour. Math. Phys.* **45**(2004), No. 11, 4025–4034.
- [87] MUKHAMEDOV F.M., On decomposition of quantum quadratic stochastic processes into layer-Markov processes defined on von Neumann algebras, *Izvestiya Math.* **68**(2004), No.5. 1009–1024.
- [88] MUKHAMEDOV F.M., On factor associated with the unordered phase of  $\lambda$ -model on a Cayley tree. *Rep. Math. Phys.* **53**(2004), 1–18.
- [89] MUKHAMEDOV F.M., ROZIKOV U.A., On Gibbs measures of  $p$ -adic Potts model on a Cayley tree. *Indag. Math. N.S.* **15**(2004) No. 1, 85–100 (arXiv: 0510025).
- [90] MUKHAMEDOV F.M., ROZIKOV U.A., On Gibbs measures of models with competing ternary and binary interactions on a Cayley tree and corresponding von Neumann algebras. *Jour. Stat. Phys.* **114**(2004), No. 3/4, 825–848.
- [91] MUKHAMEDOV F.M., ROZIKOV U.A., On rational  $p$ -adic dynamical systems. *Methods of Funct. Anal. and Topology*, **10**(2004), No.2, 21–31 (arXiv: 0511205).

**[2003]**

- [92] KARIMOV, A. K., MUKHAMEDOV, F. M., The Banach principle in Jordan algebras and its application. *Dokl. Nat. Acad. Ukraine* 2003, no. 1, 22–24 (Russian).
- [93] KARIMOV A.K., MUKHAMEDOV F.M., An individual ergodic theorem with respect to a uniform sequence and the Banach principle in Jordan algebras. *Sbornik: Math.* **194**(2003), No.2, 237–250.

**[2002]**

- [94] MUKHAMEDOV, F. M., An individual ergodic theorem on time subsequences for quantum quadratic dynamical systems. *Uzbek. Mat. Jour.* 2002, No. 2, 46–50 (Russian).
- [95] MUKHAMEDOV F.M., On the ergodic principle for Markov processes associated with quantum quadratic stochastic processes. *Russian Math. Surveys* **57**(2002), No.6, 1236–1237.
- [96] GANIKHODJAEV N.N., MUKHAMEDOV F.M., ROZIKOV U.A., Existence of phase transition for the Potts  $p$ -adic model on the set  $Z$ . *Theor. Math. Phys.* **130**(2002), No.3, 425–431.

**[2001]**

- [97] MUKHAMEDOV F.M., On an entropy of Markov operators defined on von Neumann algebras. *Dokl. Acad. Nauk Rep. Uzb.*, 2001, No. 10–11, 12-15 (Russian).
- [98] MUKHAMEDOV F.M., On mixing quadratic dynamical systems defined on  $C^*$ -algebras. *Dokl. Akad. Nauk. Rep. of Uzb.* 2001, No. 3 , 3–6 (Russian).

- [99] MUKHAMEDOV F.M. On one regularity condition for quantum quadratic stochastic process, *Ukrain. Math. Jour.* **53** (2001), No.10, 1657–1672.
- [100] LITVINOV S.N., MUKHAMEDOV F.M., Subsequential individual ergodic theorem for positive contractions of von Neumann algebras. *Studia Math.* **145**(2001), No.3, 56–62
- [101] MUKHAMEDOV F.M. On ergodic properties of discrete quadratic dynamical system on  $C^*$ -algebras. *Method of Funct. Anal. and Topology*, **7**(2001), No.1, 63–75.
- [102] MUKHAMEDOV F.M. ROZIKOV U.A. Von Neumann algebra corresponding to one phase of the inhomogeneous Potts model on a Cayley tree. *Theor. Math. Phys.* **126**(2001), No.2, 169–174.
- [2000]
- [103] MUKHAMEDOV F.M., On Blum-Hanson theorem for quadratic contractions. *Dokl. Akad. Nauk. Rep. of Uzb.* 2000, No. 8 , 10–12 (Russian).
- [104] MUKHAMEDOV F.M., On a limit theorem for quantum quadratic processes. *Dokl. Nat. Acad. Ukraine*, 2000, No.11, 25–27 (Russian).
- [105] MUKHAMEDOV F.M., On translation invariant Gibbs states of Ising model on a Bethe lattice. *Dokl. Nat. Acad. Ukraine*, 2000, No.10, 20–22 (Russian).
- [106] MUKHAMEDOV F.M. On uniform ergodic theorem for quadratic processes on  $C^*$ -algebras. *Sbornik: Math.* **191**(2000), No.12, 1891–1903.
- [107] MUKHAMEDOV F.M., On infinite dimensional Volterra operators. *Russian Math. Surveys*, **55**(2000), No.6, 1161–1162.
- [108] GANIKHODJAEV N.N., MUKHAMEDOV F.M., Ergodic properties of discrete quantum quadratic stochastic processes defined on von Neumann algebras. *Izvestiya Math.* **64**(2000), No.5, 873–890.
- [109] MUKHAMEDOV F.M. ROZIKOV U.A., The disordered phase of nonhomogeneous Potts model is extremal on the Cayley tree. *Theor. Math. Phys.*, **124**(2000), No.3, 1202–1209.
- [110] MUKHAMEDOV F.M., Von Neumann algebras generated by translation-invariant Gibbs states of the Ising model on a Bethe lattice. *Theor. Math. Phys.* **123**(2000), No.1, 489–493.
- [111] MUKHAMEDOV F.M., On the compactness of a set of quadratic operators defined on a von Neumann algebra. *Uzbek Math. Jour.* 2000, n. 3, 21–25 (Russian).
- [112] GANIKHODJAEV N.N., MUKHAMEDOV F.M., ROZIKOV U.A., Analytic methods in the theory of quantum quadratic stochastic processes. *Uzbek Math. Jour.* 2000, n.2, 18–23.
- [113] MUKHAMEDOV F.M., Expansion of quantum quadratic stochastic processes. *Doklady Math.* **61** 2000, No. 2. 195–197.
- [114] MUKHAMEDOV F.M., On the Blum-Hanson theorem for quantum quadratic processes. *Math. Notes*, **67**(2000), No.1, 81–86.
- [1999]
- [115] MUKHAMEDOV F.M., On certain properties of maps of von Neumann algebras. *Dokl. Akad. Nauk. Rep. of Uzb.* 1999, No. 10 , 3–6 (Russian).
- [116] MUKHAMEDOV F.M., MUKHAMEDOV M.A., On limit behavior of one class of finite dimensional systems and its applications to  $C_0 - C_t$  semigroups. *Dokl. Akad. Nauk. Rep. of Uzb.* 1999, No. 7 , 3–5 (Russian).
- [117] MUKHAMEDOV F.M. On compactness of some sets of positive maps Neumann’s algebras. *Method of Funct. Anal. and Topology*, **5**(1999), No.3, 26–34.
- [118] GANIKHODJAEV N.N., MUKHAMEDOV F.M., Regularity conditions for quantum quadratic stochastic processes. *Dokl. Math.* **59**(1999), 226–228.
- [119] MUKHAMEDOV F. M., NORMATOV, I. KH., ROZIKOV U. A., Evolution equations for a class of finite-dimensional quadratic stochastic processes. *Uzbek. Mat. Jour.* 1999, No. 4, 41–46 (Russian).
- [120] MUKHAMEDOV F.M., Weighted ergodic theorems for finite dimensional dynamical systems. *Uzbek Math. Jour.* 1999, No. 2, 48–53 (Russian).
- [121] GANIKHODJAEV N.N., MUKHAMEDOV F.M., On a problem related to Gibbs states corresponding to Hamiltonians with nontrivial interactions. *Uzbek Math. Jour.* 1999, No. 1, 26–32 (Russian).
- [1998]
- [122] GANIKHODJAEV N.N., MUKHAMEDOV F.M. ROZIKOV U.A., On nonarchimedean Ising models. *Dokl. Akad. Nauk. Rep. of Uzb.* 1998, No. 11 , 6–9 (Russian).
- [123] MUKHAMEDOV F.M. On an ergodic property of quantum quadratic stochastic processes. *Dokl. Akad. Nauk. Rep. of Uzb.* 1998, No. 9 , 5–9 (Russian).

- [124] GANIKHODJAEV N.N., MUKHAMEDOV F.M., Ergodic properties of quantum quadratic stochastic processes defined on von Neumann algebras. *Russian Math. Surveys* **53**(1998), No.6, 1350–1351.
- [125] GANIKHODJAEV N.N., MUKHAMEDOV F.M., Markov states in quantum lattice systems and its representations. *Method of Funct. Anal. and Topology*, **4**(1998), No.3, 33–38.
- [126] GANIKHODJAEV N.N., MUKHAMEDOV F.M., ROZIKOV U.A., Phase transitions of the Ising model on  $Z$  in the  $p$ -adic number field. *Uzbek. Math. Jour.* 1998, No. 4 , 23–29 (Russian).
- [127] MUKHAMEDOV F.M., Ergodic properties of conjugate quadratic operators. *Uzbek Math. Jour.* 1998, No. 1, 71–79 (Russian).
- [1997]
- [128] GANIKHODJAEV N.N., MUKHAMEDOV F.M., On quantum quadratic stochastic processes. *Dokl. Akad. Nauk. Rep. of Uzb.* 1997, No. 3 , 13–16 (Russian).
- [129] GANIKHODJAEV N.N., MUKHAMEDOV F.M. On quantum quadratic stochastic processes and some ergodic theorems for these processes. *Uzbek Math. Jour.* 1997, No. 3 , 8–20 (Russian).

[Chapter in Books & Proceedings] .

- [130] ACCARDI L., MUKHAMEDOV F., SABUROV M., Quantum Markov chains and Ising model on Cayley tree, In book: L. Accardi, W. Fruedenberg, M. Ohya Eds. *Quantum Bio-Informatics V*, Proc. Quantum Bio-Informatics, Tokyo University of Science, Japan, 7-12 March, 2011, World Scientific, 2013, pp. 15–24.
- [131] MUKHAMEDOV F., Existence of phase transition for 1D countable state  $p$ -adic Potts model, In book: K. Sharipov (Eds): *Proc. Turin Polytechnic Univ. in Tashkent*, Asr Matbuot Press, Tashkent, 2012, pp. 228–242.
- [132] MUKHAMEDOV F., WAN ROZALI, W.N.F.A., On  $p$ -adic generalized logistic dynamical system, *Proc. Inter. Conf. on Mathematical Applications in Engineering (ICMAE'12)*, Kuala Lumpur, 3-4 July 2012, IIUM Press, Malaysia, 2012, pp. 80–87.
- [133] MUKHAMEDOV F., On  $L_1$ -weak ergodicity of non-homogeneous discrete Markov processes, *Proc. Inter. Conf. on Mathematical Applications in Engineering (ICMAE'12)*, Kuala Lumpur, 3-4 July 2012, IIUM Press, Malaysia, 2012, pp. 73–79.
- [134] MUKHAMEDOV F., SABUROV M., The solvability criterion of cubic equations over  $p$ -adic field, *Proc. Inter. Conf. on Mathematical Applications in Engineering (ICMAE'12)*, Kuala Lumpur, 3-4 July 2012, IIUM Press, Malaysia, 2012, pp. 41–47.
- [135] MUKHAMEDOV F., SUPAR N.A., On construction of quadratic stochastic processes, *Proc. 2nd Regional Conf. on Applied and Engineering Math. (RCMAE'2012)*, Penang, 30-31 May 2012, University Perlis Press, Malaysia, 2012, pp. 503–506.
- [136] MUKHAMEDOV F., WAN ROZALI, W.N.F.A., On  $p$ -adic generalized logistic dynamical systems, *Proc. 2nd Regional Conf. on Applied and Engineering Math. (RCMAE'2012)*, Penang, 30-31 May 2012, University Perlis Press, Malaysia, 2012, pp. 388–393.
- [137] GANIEV, I., MUKHAMEDOV F., Measurable bundles of  $C^*$ -dynamical systems, *Proc. Inter. Conf. on Appl. Science, Mathematics, & Humanities, (ICASMH2011)*, Seremban, 14–12 November 2011, Universiti Teknologi MARA, Malaysia, 2011, pp. 160–164.
- [138] GANIKHODJAEV R., MUKHAMEDOV F., SABUROV, M.,  $G$ -decompositions of matrices and quadratic doubly stochastic operators, *Proc. Inter. Seminar on Appl. Science & Mathematics, (ISAMS2011)*, Kuala Lumpur, 1–3 November 2011, Universiti Tun Hussein Onn Malaysia, 2011, pp. 161–166.
- [139] MUKHAMEDOV F., On the existence of phase transition for one dimensional  $p$ -adic countable state Potts model, *Proc. Inter. Seminar on Appl. Science & Mathematics, (ISAMS2011)*, Kuala Lumpur, 1–3 November 2011, Universiti Tun Hussein Onn Malaysia, 2011, pp. 98–103.
- [140] WAN ROZALI, W.N.F.A., MUKHAMEDOV F., On  $p$ -adic generalized logistic dynamical system, *Proc. Inter. Seminar on Appl. Science & Mathematics, (ISAMS2011)*, Kuala Lumpur, 1–3 November 2011, Universiti Tun Hussein Onn Malaysia, 2011, pp. 208–212.
- [141] ACCARDI L., MUKHAMEDOV F., SABUROV M., On Phase Transitions in quantum Markov chains on Cayley tree, In book: L. Accardi, W. Fruedenberg, M. Ohya Eds. *Quantum Bio-Informatics IV*, From Quantum Information to Bio-Informatics Tokyo University of Science, Japan, 10-13 March, 2010, World Scientific, 2011, pp. 267–278.

- [142] MUKHAMEDOV F., ABDUGANIEV A., On Kadison-Schwarz property of quantum quadratic operators on  $M_2(\mathbb{C})$ , In book: L. Accardi, W. Fruedenberg, M. Ohya Eds. *Quantum Bio-Informatics IV*, Vol. 27, From Quantum Information to Bio-Informatics, Tokyo University of Science, Japan, 10-13 March, 2010, World Scientific, 2011, pp. 255–266.
- [143] MUKHAMEDOV F., WAN ROZALI W.N.F.A., On  $\xi^\alpha$ -quadratic stochastic operators and their classifications, *Proc. 3rd Inter. Conf. on Science & Technology: Appl. in Industry & Education, (ICSTAI2010)*, Pulau Pinang, 16–17 December 2010, Universiti Teknologi MARA, Malaysia, 2010, 7p.
- [144] MUKHAMEDOV F., JAMAL A.H. M., Classification of  $\xi^s$ -quadratic stochastic operators in 2D-simplex, *Proc. 3rd Inter. Conf. on Science & Technology: Appl. in Industry & Education, (ICSTAI2010)*, Pulau Pinang, 16–17 December 2010, Universiti Teknologi MARA, Malaysia, 2010, 5p.
- [145] MUKHAMEDOV F., JAMAL A.H. M., On  $\xi^s$ -quadratic stochastic operators in 2-dimensional simplex *Proc. the 6th IMT-GT Conf. Math., Statistics and its Applications (ICMSA2010)*, Kuala Lumpur, 3-4 November 2010, Universiti Tunku Abdul Rahman, Malaysia, 2010, pp. 159–172.
- [146] MUKHAMEDOV F., On dynamical systems and phase transitions for  $Q + 1$ -state  $p$ -adic Potts Model on the Cayley tree, *Proc. the 6th IMT-GT Conf. Math., Statistics and its Applications (ICMSA2010)*, Kuala Lumpur, 3-4 November 2010, Universiti Tunku Abdul Rahman, Malaysia, 2010, pp. 68–81.
- [147] MUKHAMEDOV F., ABDUGANIEV A. MUKHAMEDOV M., On dynamics of quantum quadratic operators on  $M_2(\mathbb{C})$ , *Proc. Inter. Conf. on Mathematical Applications in Engineering (ICMAE'10)*, Kuala Lumpur, 3-4 August 2010, IIUM Press, Malaysia, 2010, pp. 14–18.
- [148] MUKHAMEDOV F., SABUROV M., On dynamical system relating to quantum Markov Chain associated with Ising model on Cayley Tree, *Proc. Inter. Conf. on Mathematical Applications in Engineering (ICMAE'10)*, Kuala Lumpur, 3-4 August 2010, IIUM Press, Malaysia, 2010, pp.1–5.
- [149] MUKHAMEDOV F., SABUROV M., Stability of a Dynamical System related to  $XY$ -Model in Quantum Markov Chains Scheme, *Proc. Regional Conference on Applied and Engineering Mathematics 2010*, Vol. 2, No. 4, Penang, 2–3 June, 2010, Univ. Malaysia Perlis, 2010, pp. 204-217.
- [150] MUKHAMEDOV F., On Marginal Markov Processes of Quantum Quadratic Stochastic Processes, In book: A. Barhoumi and H. Ouerdiane Eds. *Quantum Probability and White Noise Analysis*, Vol. 25, Proceedings of the 29-th Conference Hammamet, Tunis 13 - 18 October 2008, World Scientific, 2010, pp. 203–215 (arXiv:0904.3790).
- [151] MUKHAMEDOV F., Quantum Markov Chains on a Cayley tree, *Proc. of Inter. Advanced Technology Congress-ATCi2009*, PWTC, Kuala Lumpur, 3-5 November 2009, Univ. Putra Malaysia, 2009, Paper-Id-023, 5 p.
- [152] MUKHAMEDOV F., SHAHIDI F. On doubly stochastic operators defined on infinite dimensional space, *Proc. 4th Inter. Conf. on Research & Education in Math. Sci. (ICREM4-2009)*, Kuala Lumpur, 21–23 October 2009, Institute for Mathematical Research Univ. Putra Malaysia, 2009, pp.349–355.
- [153] MUKHAMEDOV F., SABUROV M.,  $M$ -Lotka-Volterra type operators, *Proc. Inter. Conf. Modern Problems of Appl. Math. & Information Tech. - Al Khorezmiy 2009*, V.1, Tashkent, 18–21 September, 2009, National Univ. Uzbekistan, 2009, pp. 22–25.
- [154] MUKHAMEDOV F., Generalized quantum Markov chains on a Cayley tree, *Proc. Inter. Conf. Modern Problems of Appl. Math. & Information Tech. - Al Khorezmiy 2009*, V.1, Tashkent, 18–21 September, 2009, National Univ. Uzbekistan, 2009, pp. 20–22.
- [155] MUKHAMEDOV, F., Dynamics of quantum quadratic stochastic operators on  $M_2(\mathbb{C})$ , In book: M. Darus, S. Owa (Eds), *Proc. Inter. Symp. New Developments of Geometric Function Theory & its Appl.*, Kuala Lumpur, 10-13 Novemer 2008, Natioanl Univ. Malaysia, 2008, pp. 425–430.
- [156] MUKHAMEDOV F.M., MENDES J.F.F. On chaos of a cubic  $p$ -adic dynamical system, In book: Staicu, Vasile (Ed.) *Differential Equations, Chaos and Variational Problems, Series: Progress in Nonlinear Differential Equations and Their Applications*, Vol. 75, Birkhäuser, 2008, pp.305–315.(arXiv: 0608573).
- [157] MUKHAMEDOV, F, SABUROV M., On bijectivity of infinite dimansional Volterra type operators, *Proc. Inter. Conf. Advancement in Sci. & Tech. -iCAST2008*, Kuantan, 13-15 June 2008, Inter. Islamic Univ. Malaysia, 2008, pp. 80–81.
- [158] MUKHAMEDOV F.M., ROZIKOV U.A., MENDES J.F.F. On Phase Transitions for  $p$ -Adic Potts Model with Competing Interactions on a Cayley Tree,  *$p$ -adic Mathematical Physics (2nd International Conference, Belgrade, 15-21 September 2005)*, AIP Conference Proceedings, Vol. 826, Melville, New York, 2006, pp. 140–150 (arXiv: 0512018).

- [159] FIDALEO, F. MUKHAMEDOV, F., On factor associated with quantum Markov states corresponding to nearest neighbor models on a Cayley tree, In book: M.Schurmann & U. Franz (Eds), *Quantum probability and infinite dimensional analysis*, V. 18, World Sci. 2005, pp. 237–251 ([arXiv: 0411196](#) ).
- [160] MUKHAMEDOV, M., MUKHAMEDOV, F., On limiting behavior of a class of finite dimensional dynamical systems and its applications to  $C_0 - C_t$  -semigroups, *Proc. Inter. Conf. devoted to 90th birth day of Acad. Kh.A.Rakhmatulin*, Tashkent, 1999, Institute of Mechanics Akad. Sci. Uzbekistan, 1999, V.2, pp. 634–639.
- [161] GANIKHODJAEV N.N., MUKHAMEDOV F.M., On Markov random fields on UHF-algebras. In book: Yu.Khakimdjanov et.al (Eds): *Algebra and Operator Theory, Proc. of Colloq. at Tashkent, 1997* , Kluwer AP, 1998, pp. 187–193.

**[Books]** .

- [162] GANIKHODJAEV N.N., MUKHAMEDOV F.M. *The Theory of Real functions*, Handbook, National Univ. Uzbekistan Press, Tashkent, 2003, 179 p (Uzbek).
- [163] GANIKHODJAEV N., MUKHAMEDOV, F., PAH C.H. *Lattice Models with Competing Interactions*, IIUM Press, 2011.
- [164] GANIKHODJAEV N., MUKHAMEDOV, F., PAH C.H.(Edrs) *Investigation in Pure mathematics, finance mathematics and optics. Proc. Dep. Comput. & Theor. Sci., Faculty of Science, IIUM*, Vol.1, IIUM Press, 2011, 245 p.
- [165] MUKHAMEDOV, F. GANIKHODJAEV N., SABUROV M. (Edrs.) *Recent Achievements in Dynamical Systems, Proc. Dep. Comput. & Theor. Sci., Faculty of Science, IIUM*, Vol. 2, IIUM Press, 2011, 260 p.
- [166] GANIKHODJAEV N., MUKHAMEDOV, F., PAH C.H.(Edrs), *Jour. Phys.: Conf. Ser.* International Conference on Advancement in Science and Technology 2012 (iCAST): Contemporary Mathematics, Mathematical Physics and their Applications, V. 435, IOP Publisher, 2013.