

Ilia Ponomarenko
LIST OF PUBLICATIONS, May (2021)

1. G. Chen and I. Ponomarenko, *Tensor products of coherent configurations*, [arXiv:2105.10679v1 \[math.CO\]](#), 1–21 (2021).
2. F. Fuhlbrück, J. Köbler, I. Ponomarenko, and O. Verbitsky, *The Weisfeiler-Leman Algorithm and Recognition of Graph Properties*, in: Algorithms and Complexity. CIAC 2021, Lecture Notes in Computer Science, **12701**, Springer (2021), pp. 245–257, https://doi.org/10.1007/978-3-030-75242-2_17.
3. G. Chen, J. He, I. Ponomarenko, and A. Vasil'ev, *A characterization of exceptional pseudocyclic association schemes by multidimensional intersection numbers*, *Ars Math. Contemporanea* (2021), <https://doi.org/10.26493/1855-3974.2405.b43>.
4. I. Ponomarenko and G. Ryabov, *The Weisfeiler-Leman dimension of chordal bipartite graphs without bipartite claws*, *Graphs Combin.* (2021). <https://doi.org/10.1007/s00373-021-02308-7>.
5. E. A. O'Brien, I. Ponomarenko, A. V. Vasil'ev, E. Vdovin *The 3-closure of a solvable permutation group is solvable*, [arXiv:2011.12011 \[math.GR\]](#), 1–17 (2020).
6. D. Churikov and I. Ponomarenko, *On 2-closed abelian permutation groups*, [arXiv:2012.14166 \[math.GR\]](#), 1–10 (2020).
7. I. Ponomarenko, *On the separability of cyclotomic schemes over finite field*, *Algebra Analiz*, **32**, No. 6, 124–146 (2020).
8. I. Ponomarenko and A. Vasil'ev, *Two-closure of supersolvable permutation group in polynomial time*, *Computational Complexity*, **29**, No. 5 (2020), doi: <https://doi.org/10.1007/s00037-020-00195-7> (MR4118452).
9. M. Muzychuk and I. Ponomarenko, *Testing isomorphism of circulant objects in polynomial time*, *J. Combin. Theory*, **A169**, 105128 (2020), <https://doi.org/10.1016/j.jcta.2019.105128> (MR3998823).
10. R. Nedela and I. Ponomarenko, *Recognizing and testing isomorphism of Cayley graphs over an abelian group of order $4p$ in polynomial time*, in: Isomorphisms, Symmetry and Computations in Algebraic Graph Theory, Springer Proceedings in Mathematics & Statistics, **305** (2020), pp. 195–218.
11. A. L. Gavril'yuk, R. Nedela, and I. Ponomarenko, *The Weisfeiler-Leman dimension of distance-hereditary graphs*, [arXiv:2005.11766 \[math.CO\]](#), 1–16 (2020).
12. G. Chen and I. Ponomarenko, *Coherent configurations*, Central China Normal University Press (2019).
13. S. Kiefer, P. Schweitzer, and I. Ponomarenko, *The Weisfeiler-Leman dimension of planar graphs is at most 3*, *Journal of the ACM*, **66**, No. 6, Article 44 (2019), doi: <https://doi.org/10.1145/3333003> (MR4040284).
14. M. Hirasaka, K. Kim, and I. Ponomarenko, *Two-valenced association schemes and the Desargues theorem*, *Arab. J. Math.*, **9**, 481–493 (2019), <https://doi.org/10.1007/s40065-019-00274-w>.
15. M. Lichter, I. Ponomarenko, and P. Schweitzer, *Walk refinement, walk logic, and the iteration number of the Weisfeiler-Leman algorithm*, in: Proc. 34th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS), doi: 10.1109/LICS.2019.8785694 (2019),
16. B. Asadian and I. Ponomarenko *On schurian fusions of the association scheme of a Galois affine plane of prime order*, *Zapiski Nauchnykh Seminarov POMI*, **478**, 5–16 (2019) (MR4030416).

17. M. Hirasaka, K. Kim, I. Ponomarenko, *Schurity and separability of quasiregular coherent configurations*, J. Algebra, **510**, 180–204 (2018) (MR3828783).
18. M. Muzychuk and I. Ponomarenko, *Finding a cycle base of a permutation group*, J. Algebra, **510** 542–561 (2018) (MR3828796).
19. I. Ponomarenko and G. Ryabov, *Abelian Schur groups of odd order*, Siberian Electronic Mathematical Reports, **15**, 397–411 (2018) (MR3796423).
20. S. Evdokimov, M. Muzychuk, and I. Ponomarenko, *A family of permutation groups with exponentially many non-conjugated regular elementary abelian subgroups*, Algebra Analiz, **29**, No. 4, 46–53 (2017) (MR3708863).
21. I. Ponomarenko and A. Vasil’ev, *Testing isomorphism of central Cayley graphs over almost simple groups in polynomial time*, Zapiski Nauchnykh Seminarov POMI, **455**, 154–180 (2017). [In Russian]. English translation in J. Math. Sci., **234**, No. 2, 219–236 (2018) (MR3669627).
22. G. Chen and I. Ponomarenko, *Coherent configurations associated with TI-subgroups*, J. Algebra, **488**, 201–229 (2017) (MR3680916).
23. I. Ponomarenko and A. Vasil’ev, *Cartan coherent configurations*, J. Algebraic Combin., **45**, No. 2, 525–552 (2017) (MR3604066).
24. G. Chen, M. Muzychuk, and I. Ponomarenko, *The Schur-Wielandt theory for central S-rings*, Algebra i Logica, **55**, No.1, 57–73 (2016) [In Russian]. English translation in: Algebra and Logic, **55**, No.1, 38–49 (2016) (MR3666007).
25. S. Evdokimov and I. Ponomarenko, *On separability problem for circulant S-rings*, Algebra Analiz, **28**, No. 1, 32–51 (2016) (MR3591065).
26. S. Evdokimov, I. Kovács, and I. Ponomarenko, *On schurity of finite abelian groups*, Communications in Algebra, **44**, No. 1 (2016), 101–117 (MR3413674).
27. M. Muzychuk and I. Ponomarenko, *On Schur 2-groups*, Zapiski Nauchnykh Seminarov POMI, **435**, 113–162 (2015) [In Russian]. English translation in J. Math. Sci., **219**, No. 4 (2016), 565–594 (MR3493620).
28. S. Evdokimov and I. Ponomarenko, *On coset closure of a circulant S-ring and schurity problem*, J. Algebra Appl., **15**, No. 4, Article ID 1650068 (2016) (MR3462199).
29. I. Ponomarenko and A. Vasil’ev, *On non-abelian Schur groups*, J. Algebra Appl., **13**, No. 8, Article ID 1450055 (2014) (MR3225122).
30. D. Grigoriev, M. Muzychuk, and I. Ponomarenko, *Tensor rank: matching polynomials and Schur rings*, Foundations Comput. Math., **14**, 457–481 (2014) (MR3201953).
31. S. Evdokimov and I. Ponomarenko, *Schur rings over a product of Galois rings*, Beitr. Algebra Geom., **55**, No. 1, 105–138 (2014) (MR3167785).
32. S. Evdokimov, I. Kovács, and I. Ponomarenko, *Characterization of cyclic Schur groups*, Algebra Analiz, **25**, No. 5, 61–85 (2013). English translation in St. Petersburg Math. J., **25**, No. 5, 755–773 (2014) (MR3184607).
33. I. Ponomarenko, *Bases of schurian antisymmetric coherent configurations and isomorphism test for schurian tournaments*, Zapiski Nauchnykh Seminarov POMI, **402**, 108–147 (2012). English translation in J. Math. Sci., **192**, No. 3, 316–338 (2013) (MR2981982).
34. S. Evdokimov and I. Ponomarenko, *Schurity of S-rings over a cyclic group and generalized wreath product of permutation groups*, Algebra Analiz, **24**, No. 3, 84–127 (2012). English translation in St. Petersburg Math. J., **24**, No. 3, 431–460 (2013) (MR3014128).

35. M. Muzychuk and I. Ponomarenko, *On quasi-thin association schemes*, J. Algebra, **351**, 467–489 (2012) (MR2862220).
36. M. Muzychuk and I. Ponomarenko, *On pseudocyclic association schemes*, Ars Math. Contemporeana, **5**, No. 1, 1–25 (2012) (MR2853699).
37. S. Evdokimov and I. Ponomarenko, *Schur rings over a Galois ring of odd characteristic*, J. Combin. Theory, **A117**, 827–841 (2010) (MR2012a:05342).
38. A. Rahnamai Barghi and I. Ponomarenko, *Non-isomorphic graphs with cospectral symmetric powers*, Electronic J. Combin., **16**, #R120 (2009) (MR2010m:05183).
39. A. Rahnamai Barghi and I. Ponomarenko, *The basis digraphs of p -schemes*, Graphs Combin., **25**, 265–271 (2009) (MR2011b:05288).
40. I. Ponomarenko and P.-H. Zieschang, *Preface. Association schemes: ideas and perspectives*, European J. Combin., **30**, No. 6, 1387–1391 (2009) (MR2535393).
41. S. Evdokimov and I. Ponomarenko, *Permutation group approach to association schemes*, European J. Combin., **30**, No. 6, 1456–1476 (2009) (M2010j:05423).
42. M. Muzychuk and I. Ponomarenko, *Schur rings*, European J. Combin., **30**, No. 6, 1526–1539 (2009) (MR2010k:20008).
43. A. Hanaki and I. Ponomarenko, *A modular absolute bound condition for primitive association schemes*, J. Algebraic Combin., **29**, No. 4, 447–456 (2009) (MR2010b:05188).
44. S. Evdokimov and I. Ponomarenko, *Schemes of a finite projective plane and their extensions*, Algebra Analiz, **21**, No. 1, 90–132 (2009). English translation in St. Petersburg Math. J., **21**, No. 1, 65–93 (2010) (MR2010i:05356).
45. J. Bagherian, I. Ponomarenko, and A. Rahnamai Barghi, *On cyclotomic schemes over finite near-fields*, Journal of Algebraic Combinatorics, **27**, 173–185 (2008) (MR2009c:05251).
46. S. Evdokimov and I. Ponomarenko, *Normal cyclotomic schemes over a finite commutative ring*, Algebra Analiz, **19**, 59–85 (2007). (Correction in: Algebra Analiz, **20**, No. 3, 243–244 (2008).) English translation in St. Petersburg Math. J., **19**, 911–929 (2008) (MR2009f:05270a).
47. I. Ponomarenko and A. Rahnamai Barghi, *On structure of p -schemes*, Zapiski Nauchnykh Seminarov POMI, **344**, 190–202 (2007). English translation in J. Math. Sci., **147**, No. 6, 7227–7233 (2007) (MR2009k:05198).
48. I. Ponomarenko and A. Rahnamai Barghi, *On amorphic C -algebras*, Zapiski Nauchnykh Seminarov POMI, **340**, 87–102 (2006). English translation in J. Math. Sci., **145**, No. 3, 4981–4988 (2007) (MR2008f:05214).
49. D. Grigoriev and I. Ponomarenko, *Constructions in public-key cryptography over matrix groups*, Contemp. Math., **418**, 103–120 (2006) (MR2010f:94221).
50. D. Grigoriev and I. Ponomarenko, *Homomorphic public-key cryptosystems and encrypting boolean circuits*, Applicable Algebra in Engineering, Communication and Computing, **17**, 239–255 (2006) (MR2008b:94067).
51. S. Evdokimov and I. Ponomarenko, *A new look at the Burnside-Schur theorem*, Bull. London Math. Soc., **37**, 535–546 (2005) (MR2006f:20004).
52. I. Ponomarenko, *Determination of the automorphism group of a circulant association scheme in polynomial time*, Zapiski Nauchnykh Seminarov POMI, **321**, 251–267 (2005). English translation in J. Math. Sci., **136**, No. 3, 3972–3979 (2006) (MR2005m:05241).
53. D. Grigoriev and I. Ponomarenko, *Homomorphic public-key cryptosystems over groups and rings*, Quaderni di Matematica, **13**, 305–326 (2004) (MR2006b:94027).

54. S. Evdokimov and I. Ponomarenko, *On the vertex connectivity of a relation in association scheme*, Zapiski Nauchnykh Seminarov POMI, **316**, 43–55 (2004). English translation in J. Math. Sci., **134**, No. 5, 2354–2357 (2006) (MR2005m:05239).
55. S. Evdokimov and I. Ponomarenko, *Recognizing and isomorphism testing circulant graphs in polynomial time*, Algebra Analiz, **15**, No. 6, 1–34 (2003). English translation in St. Petersburg Math. J., **15**, No. 6, 813–835 (2004) (MR2005g:68053).
56. D. Grigoriev and I. Ponomarenko, *On non-abelian homomorphic public-key cryptosystems*, Zapiski Nauchnykh Seminarov POMI, **293**, 39–58 (2002). English translation in J. Math. Sci., **126**, No. 3, 1158–1166 (2005) (MR2004a:94044).
57. S. Evdokimov and I. Ponomarenko, *Rings associated to finite projective planes and their isomorphisms*, Zapiski Nauchnykh Seminarov POMI, **289**, 207–213 (2002). English translation in J. Math. Sci., **124**, No. 1, 4792–4795 (2004) (MR2003g:51005).
58. S. Evdokimov and I. Ponomarenko, *Characterization of cyclotomic schemes and normal Schur rings over a cyclic group*, Algebra Analiz, **14**, No. 2, 11–55 (2002). English translation in St. Petersburg Math. J., **14**, No. 2, 189–221 (2003) (MR2003h:20005).
59. S. Evdokimov and I. Ponomarenko, *Two-closure of odd permutation group in polynomial time*, Discrete Math., **235/1-3**, 221–232 (2001) (MR2002c:20004).
60. S. Evdokimov and I. Ponomarenko, *On a family of Schur rings over a finite cyclic group*, Algebra Analiz, **13**, No. 3, 139–154 (2001). English translation in St. Petersburg Math. J., **13**, No. 3, 441–451 (2002) (MR2002i:16036).
61. S. Evdokimov, I. Ponomarenko, and G. Tinhofer, *Forestal algebras and algebraic forests (on a new class of weakly compact graphs)*, Discrete Math., **225**, 149–172 (2000) (MR2001k:05187).
62. S. Evdokimov and I. Ponomarenko, *Separability number and Schurity number of coherent configurations*, Electronic J. Combin., **7** (2000), #R31 (MR2001g:05108).
63. S. Evdokimov and I. Ponomarenko, *Isomorphism of coloured graphs with slowly increasing multiplicity of Jordan blocks*, Combinatorica, **19**, 321–333 (1999) (MR2001h:05070).
64. S. Evdokimov and I. Ponomarenko, *On primitive cellular algebras*, Zapiski Nauchnykh Seminarov POMI, **256**, 38–68 (1999). English translation in J. Math. Sci., **107**, No. 5, 4172–4191 (2001) (MR2000i:16060).
65. S. Evdokimov and I. Ponomarenko, *On highly closed cellular algebras and highly closed isomorphisms*, Electronic J. Combin., **6** (1999), #R18 (MR2000e:05160).
66. S. Evdokimov, M. Karpinski, and I. Ponomarenko, *Compact cellular algebras and permutation groups*, Discrete Math., **197/198**, 247–267 (1999) (MR99k:20004). (This paper has been selected for Discrete Mathematics - Editor’s Choice, 1999.)
67. S. Evdokimov, M. Karpinski, and I. Ponomarenko, *On a new high dimensional Weisfeiler-Lehman algorithm*, J. Algebraic Combin., **10**, 29–45 (1999) (MR2001i:05110).
68. S. Evdokimov and I. Ponomarenko, *On the geometric graph isomorphism problem*, J. Pure Appl. Algebra, **117 & 118**, 253–276 (1997) (MR99b:68146).
69. S. A. Evdokimov, I. N. Ponomarenko, and A. M. Vershik, *Algebras in Plancherel duality and algebraic combinatorics*, Funct. Anal. Appl., **31**, No. 4, 34–46 (1997). (MR2000d:46068)
70. S. Evdokimov and I. Ponomarenko, *Bases of primitive cellular algebras*, in: Proc. International Algebraic conference dedicated to the memory of D.K.Faddeev (1997), pp.45–46.
71. S. A. Evdokimov, I. N. Ponomarenko, and A. M. Vershik, *C-algebras and algebras in Plancherel duality*, Zapiski Nauchnykh Seminarov POMI, **240**, 53–66 (1997). English translation in J. Math. Sci., **96**, No. 5, 3478–3485 (1999) (MR2000e:16036).

72. S. Evdokimov and I. Ponomarenko, *Two inequalities for the parameters of a cellular algebra*, Zapiski Nauchnykh Seminarov POMI, **240**, 82–95 (1997). English translation in J. Math. Sci., **96**, No. 5, 3496–3504 (1999) (MR2000c:20017).
73. L. Babel, I. Ponomarenko, and G. Tinhofer, *The isomorphism problem for directed path graphs and for rooted directed path graphs*, J. Algorithms, **21**, 542–564 (1996) (MR98g:05102).
74. V. M. Buchshtaber, S. A. Evdokimov, I. N. Ponomarenko, and A. M. Vershik, *Combinatorial algebras and multivalued groups*, Funct. Anal. Appl., **30**, No. 3, 12–18 (1996) (MR97j:16045).
75. S. Evdokimov and I. Ponomarenko, *Transitive permutation groups with representations of bounded degree*, Zapiski Nauchnykh Seminarov POMI, **223**, 108–119 (1995). English translation in J. Math. Sci., **87**, No. 6, 4046–4053 (1997) (MR97h:20004).
76. L. Babel, G. Tinhofer, and I. Ponomarenko, *Directed path graph isomorphism*, Lect. Notes Comput. Sci., **903**, 395–406 (1994).
77. I. Ponomarenko, *Graph isomorphism problem and 2-closed permutation groups*, Applicable Algebra in Engineering, Communication and Computing, **5**, 9–22 (1994) (MR94m:20014).
78. I. Ponomarenko, *On an estimate for the order of primitive permutation groups*, Zapiski Nauchnykh Seminarov POMI, **215**, 256–263 (1994). English translation in J. Math. Sci., **85**, No. 1, 1722–1726 (1997) (MR96c:20007).
79. I. Ponomarenko, *Graph algebras and the graph isomorphism problem*, Applicable Algebra in Engineering, Communication and Computing, **5**, 277–286 (1994) (MR95c:05091).
80. D. A. Ugolev, T. V. Sokolova, and I. Ponomarenko, *Abstract non destructive chemical analyzer*, Vestnik LGU, **25**, 49–60 (1993).
81. I. Ponomarenko, *Polynomial-time algorithms for recognizing and isomorphism testing of cyclic tournaments*, Acta Appl. Math., **29**, 139–160 (1992) (MR94f:05142).
82. I. Ponomarenko, *Some problems in the theory of complexity of computations associated with relation algebras*, Zapiski Nauchnykh Seminarov POMI, **202**, 116–134 (1992) (MR95k:68081).
83. I. Ponomarenko, *Imprimitivity of a class of S -rings*, in: Mathematical methods for constructing and analyzing algorithms (Russian), “Nauka”, Leningrad (1990), pp. 154–162 (MR91k:20012).
84. V. Kirillin, A. Klubovich, and I. Ponomarenko, *i8031-Based Forth*, in: Rochester Forth Conference “Embedded systems” (1990), pp.169.
85. I. Ponomarenko, *The isomorphism problem for classes of graphs*, Dokl. Akad. Nauk SSSR, **304**, No. 3, 552–556 (1989). English translation in Soviet Math. Dokl., **39**, 119–122 (1989) (MR90d:05103).
86. I. Ponomarenko, *The isomorphism problem for classes of graphs that are invariant with respect to contraction*, Zapiski Nauchnykh Seminarov LOMI, **174**, 147–177 (1988). English translation in J. Soviet Math., **55**, 1621–1643 (1991) (MR90a:05163).
87. P. Gilman, A. Kropov, G. Pevzner, and I. Ponomarenko, *System software for special logical controllers*, Distributed control systems, Trudy VNIIEP, 1988, 4.
88. I. Ponomarenko, *A polynomial isomorphism algorithm for graphs not contractible to $K_{3,g}$* , Zapiski Nauchnykh Seminarov LOMI, **137**, 99–114 (1984) (MR86d:68060).