

Liste de productions

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February 2011

1 Publication dans une revue internationale [RI]

1. A. Philip Dawid, Steven de Rooij, Glenn Shafer, Alexander Shen, Nikolai K. Vereshchagin, and Vladimir Vovk. Insuring against loss of evidence in game-theoretic probability. *Statistics & Probability Letters*, 81(1):157–162, 2011
2. Glenn Shafer, Alexander Shen, Nikolai K. Vereshchagin, and Vladimir Vovk. Test martingales, Bayes factors, and p-values. *Statistical Science*, accepted:15, 2011
3. Yen-Wu Ti, Ching-Lueh Chang, Yuh-Dang Lyuu, and Alexander Shen. Sets of k-independent strings. *International Journal of Foundations of Computer Science*, 21(3):321–327, 2010
4. Laurent Bienvenu, Andrej A. Muchnik, Alexander Shen, and Nikolai K. Vereshchagin. Limit complexities revisited. *Theory of Computing Systems*, 47(3):720–736, 2010
5. Vladimir Vovk and Alexander Shen. Prequential randomness and probability. *Theoretical Computer Science*, 411(29-30):2632–2646, 2010
6. Bruno Durand, Andrei E. Romashchenko, and Alexander Shen. Fixed point theorem and aperiodic tilings. *Bulletin of the EATCS*, 97:126–136, 2009
7. Laurent Bienvenu, Glenn Shafer, and Alexander Shen. On the history of martingales in the study of randomness. *Electronic Journ@l for History of Probability and Statistics*, 5(1, June 2009):1–40, 2009
8. Laurent Bienvenu, Wolfgang Merkle, and Alexander Shen. A simple proof of Miller-Yu theorem. *Fundamenta Informaticae*, 83(1-2):21–24, 2008
9. Noga Alon, Ilan Newman, Alexander Shen, Gábor Tardos, and Nikolai K. Vereshchagin. Partitioning multi-dimensional sets in a small number of “uniform” parts. *European Journal of Combinatorics*, 28(1):134–144, 2007
10. Bruno Durand, Leonid A. Levin, and Alexander Shen. Complex Tilings. *Journal of Symbolic Logic*, 73(2):593–613, 2007
11. Andrej A. Muchnik, Alexander Shen, Mikhail Ustinov, Nikolai K. Vereshchagin, and Mikhail Vyalyi. Non-reducible descriptions for conditional Kolmogorov complexity. *Theoretical Computer Science*, 384(1):77–86, 2007
12. Bruno Durand, Leonid A. Levin, and Alexander Shen. Local rules and global order, or aperiodic tilings. *The Mathematical Intelligencer*, 27(1):64–68, 2005
13. Alexey Chernov, Andrej A. Muchnik, Andrei E. Romashchenko, Alexander Shen, and Nikolai K. Vereshchagin. Upper semi-lattice of binary strings with the relation “x is simple conditional to y”. *Theoretical Computer Science*, 271(1-2):69–95, 2002
14. Andrei E. Romashchenko, Alexander Shen, and Nikolai K. Vereshchagin. Combinatorial Interpretation of Kolmogorov Complexity. *Theoretical Computer Science*, 271(1-2):111–123, 2002

15. Bruno Durand, Alexander Shen, and Nikolai K. Vereshchagin. Descriptive complexity of computable sequences. *Theoretical Computer Science*, 271(1-2):47–58, 2002
16. Alexander Shen and Nikolai K. Vereshchagin. Logical operations and Kolmogorov complexity. *Theoretical Computer Science*, 271(1-2):125–129, 2002
17. Daniel Hammer, Andrei E. Romashchenko, Alexander Shen, and Nikolai K. Vereshchagin. Inequalities for Shannon Entropy and Kolmogorov Complexity. *Journal of Computer and System Sciences*, 60:442–464, 2000
18. Alexander Shen. Discussion on Kolmogorov Complexity and Statistical Analysis. *The Computer Journal*, 42(4):340–342, 1999
19. Daniel Hammer and Alexander Shen. A Strange Application of Kolmogorov Complexity. *Theory of Computing Systems*, 31(1):1–4, 1998
20. Vladimir A. Uspensky and Alexander Shen. Relations Between Varieties of Kolmogorov Complexities. *Mathematical Systems Theory*, 29(3):271–292, 1996
21. Alexander Shen. $IP=PSPACE$: Simplified Proof. *Journal of the ACM (JACM)*, 39(4):878–880, 1992
22. Vladimir A. Uspensky, Alexej L. Semenov, and Alexander Shen. Can an individual sequence of zeros and ones be random? *Russian Mathematical Surveys*, 45(1):121–189, 1990
23. Vladimir A. Uspensky, Alexej L. Semenov, and Alexander Shen. Может ли (индивидуальная) последовательность нулей и единиц быть случайной? *Успехи математических наук [Russian Mathematical Surveys]*, 45(1(271)):105–162, 1990
24. Alexander Shen. On relations between different algorithmic definitions of randomness. *Soviet Mathematics Doklady*, 38:316–319, 1989
25. Alexander Shen. О соотношениях между различными алгоритмическими определениями случайности. *Доклады АН СССР [Doklady AN SSSR]*, 302(3):548–552, 1988
26. Paul Vitányi and Ming Li. Колмогоровская сложность: двадцать лет спустя. Перевод Н.К.Верещагина под редакцией А.Шеня. *Успехи математических наук*, 43(6(264)):129–166, 1988
27. Alexander Shen. Вероятностные игры в конечных играх с полной информацией. *Теория вероятностей и ее применения*, (1987)(3):567–569, 1987
28. Alexander Shen. Algorithmic variants of the notion of entropy. *Soviet Mathematics Doklady*, 29(3):569–573, 1984
29. Alexander Shen. Алгоритмические варианты понятия энтропии. *Доклады АН СССР [Doklady AN SSSR]*, 276(3):563–566, 1984
30. Alexander Shen. The concept of (α, β) -stochasticity in the Kolmogorov sense, and its properties. *Soviet Mathematics Doklady*, 271(1):295–299, 1983
31. Alexander Shen. Понятие (α, β) -стохастичности по Колмогорову и его свойства. *Доклады АН СССР [Doklady AN SSSR]*, 271(6):1337–1440, 1983
32. Alexander Shen. Частотный подход к определению понятия случайной последовательности. *Семантика и информатика. Вып. 18*, 18:14–42, 1982
33. Alexander Shen. Аксиоматический подход к теории алгоритмов и относительная вычислимость. *Вестник МГУ. Сер. 1. Математика, механика*, (1980)(2):27–29, 1980
34. Alexander Shen. Метод приоритета и проблемы отделения. *Доклады АН СССР [Doklady AN SSSR]*, 248(6):1309–1313, 1979

2 Publications dans les actes d'une conférence [AC]

1. Bruno Durand, Andrei E. Romashchenko, and Alexander Shen. Effective closed subshifts in 1D can be implemented in 2D. In *Fields of Logic and Computation, Lecture Notes in Computer Science, v.6300*, pages 208–226. Springer Berlin Heidelberg, 2010
2. Mikhail Andreev, Ilya Razenshteyn, and Alexander Shen. Not Every Domain of a Plain Decompressor Contains the Domain of a Prefix-Free One. *Theoretical Computer Science*, January 2010
3. Laurent Bienvenu, Adam R. Day, Ilya Mezhirov, and Alexander Shen. Ergodic-Type Characterizations of Algorithmic Randomness. In *CiE 2010, LNCS 6158*, pages 49–58, 2010
4. Bruno Durand, Andrei E. Romashchenko, and Alexander Shen. High complexity tiling with sparse errors. In *Automata, Languages and Programming, ICALP 2009 Proceedings, LNCS 5555*, pages 403–414, 2009
5. Daniil Musatov, Andrei E. Romashchenko, and Alexander Shen. Variations on Muchnik's Conditional Complexity Theorem. In *CSR 2009, LNCS 5675*, pages 250–262, 2009
6. Alexander Shen. Algorithmic Information Theory and Foundations of Probability. In *Reachability problems, LNCS 5797, Springer, 2009*, pages 26–34, 2009
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8. Alexey Chernov, Alexander Shen, Nikolai K. Vereshchagin, and Vladimir Vovk. On-Line Probability, Complexity and Randomness. In *ALT 2008, LNAI 5254*, pages 138–153. Springer, 2008
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10. Alexander Shen. Multisource Algorithmic Information Theory. In *TAMC 2006, LNCS 3959*, pages 327–338, 2006
11. Katalin Friedl, Alexander Shen, and Zolt Hatsagi. Low-degree Tests. In *SODA 94*, pages 57–64, 1994
12. Alexander Shen. Kolmogorov complexity and algorithmic randomness: recent developments. In *Uppsala abstracts. Abstracts of papers presented in Uppsala, Sweden, 13-18 August 1990, 2nd World Congress of the Bernoulli Society for Mathematical Statistics and Probability. 53th Annual Meeting of the Institute of Mathematical Statistics*, page 34, 1990
13. Alexander Shen. Исчисление задач и \aleph_0 -пространства. In *Шестая всесоюзная конференция по математической логике. Тбилиси, 30.XI - 2.XII.1982. Тезисы докладов.*, page 204. Издательство Тбилисского университета, 1982
14. Alexander Shen. Аксиоматическое описание понятия энтропии конечного объекта. In *Логика и основания математики. Тезисы VIII Всесоюзной конференции "Логика и методология науки". Паланга, 26-28 сентября 1982 г.*, pages 104–105, Вильнюс, 1982
15. Alexander Shen. Несколько замечаний о нумерациях, не являющихся натуральными. In *Математическая логика и математическая лингвистика. Межвузовский тематический сборник.*, pages 162–165, Калинин, 1981. Калининский государственный университет

Arxiv et Technical Reports [TR]

1. Laurent Bienvenu, Adam R. Day, Mathieu Hoyrup, Ilya Mezhirov, and Alexander Shen. A constructive version of Birkhoff's ergodic theorem for Martin-Löf random points, 2010
2. Andrej A. Muchnik, Ilya Mezhirov, Alexander Shen, and Nikolai K. Vereshchagin. Game interpretation of Kolmogorov complexity, 2010
3. Laurent Bienvenu and Alexander Shen. Algorithmic information theory and martingales, 2009
4. Bruno Durand, Andrei E. Romashchenko, and Alexander Shen. Fixed-point tile sets and their applications, 2009
5. Glenn Shafer, Alexander Shen, Nikolai K. Vereshchagin, and Vladimir Vovk. Test martingales, Bayes factors, and p-values. *Statistical Science*, accepted:15, 2011
6. Alexander Shen. Algorithmic Information theory and Kolmogorov complexity. Technical report TR2000-034, 2000

Textbooks

1. Vladimir A. Uspensky, Nikolai K. Vereshchagin, and Alexander Shen. *Колмогоровская сложность и алгоритмическая случайность (предварительный вариант)*. МСЦМЕ, 2010
2. Alexander Shen. *Algorithms and programming: problems and solutions*. Springer, 2 edition, 2010
3. Nikolai K. Vereshchagin and Alexander Shen. *Начала теории множеств*. МЦНМО, Москва, 3 edition, 2008
4. Nikolai K. Vereshchagin and Alexander Shen. *Языки и исчисления*. МЦНМО, 3 edition, 2008
5. Nikolai K. Vereshchagin and Alexander Shen. *Вычислимые функции*. МЦНМО, 3 edition, 2008
6. Alexander Shen. *Вероятность : примеры и задачи*. МЦНМО, Москва, 2007
7. Alexander Shen. *Программирование: теоремы и задачи*. МЦНМО, Москва, 3 (reprinted) edition, 2007
8. Alexey Kitaev, Alexander Shen, and Mikhail Vyalyi. *Classical and quantum computations*. AMS, 2002
9. Alexander Shen and Nikolai K. Vereshchagin. *Computable Functions*. AMS, 2003
10. Alexander Shen and Nikolai K. Vereshchagin. *Basic set theory*. AMS, 2002

Popular expositions etc.

1. Israel M. Gelfand and Alexander Shen. *Алгебра*. МЦНМО, Москва, 2nd edition, 2009
2. Alexander Shen. *Выборы и статистика: казус "Единой России"*, 2009
3. Anthony Ayiomamitis and Alexander Shen. *Космография*. МЦНМО, Москва, 2009
4. Alexander Shen. *Простые и составные числа*. МЦНМО, Москва, 2 edition, 2008
5. Alexander Shen. *Игры и стратегии с точки зрения математики*. МЦНМО, Москва, 2 edition, 2008
6. Alexander Shen. *Вероятность : примеры и задачи*. МЦНМО, Москва, 2007
7. Alexander Shen. *Математическая индукция*. МЦНМО, Москва, 3 edition, 2007

8. Alexander Shen. *О “математической строгости” и школьном курсе математики.* МЦНМО, 2006
9. Alexander Shen. *Логарифм и экспонента.* МЦНМО, Москва, 2005
10. Alexander Shen. Letter to the editor: Girls and Boys in Moscow. *The Mathematical Intelligencer*, 24(1):3, 2002
11. Alexander Shen. A Computer Scientist’s View of Evolution. *The Mathematical Intelligencer*, 23(4):3–3, 2001
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13. Alexander Shen. Why circles? *The Mathematical Intelligencer*, 22(2):18–18, 2000
14. Alexander Shen. A cultural gap revisited. *The Mathematical Intelligencer*, 22(2):16–17, 2000
15. Alexander Shen. Lights Out. *The Mathematical Intelligencer*, 22(3):20–21, 2000
16. Alexander Shen. Unexpected Proofs. *The Mathematical Intelligencer*, 21(3):48–50, 1999
17. Alexander Shen. Letter to the editor: The Uses of Referees. *The Mathematical Intelligencer*, 21(3):3, 1999
18. Alexander Shen. Geometry Problems Revisited. *The Mathematical Intelligencer*, 20(2):36–37, 1998
19. Alexander Shen. Two more probabilistic arguments - Poncelet theorem revisited. *The Mathematical Intelligencer*, 20(4):30–32, 1998
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21. Alexander Shen. Semi-Integer Rectangles - Cube and Tetrahedron. *The Mathematical Intelligencer*, 19(1):12–14, 1997
22. Alexander Shen. An Unfair Game - Colorings and Coverings - Tilings and Polyhedra Revisited - Another Euler-type equation. *The Mathematical Intelligencer*, 19(4):48–50, 1997
23. Alexander Shen. Three-Dimensional Solutions for Two-Dimensional Problems. *The Mathematical Intelligencer*, 19(3):44–47, 1997
24. Alexander Shen. Entrance Examinations to the Mekh-mat. *The Mathematical Intelligencer*, 16(4):6–10, 1994
25. Alexander Shen. Что такое случайность? *Квант*, page 7, 1983

Thesis

1. Alexander Shen. *Алгоритмические варианты понятия энтропии (01.01.06-алгебра, теория чисел, математическая логика).* Автореферат диссертации на соискание ученой степени к.ф.м.н. PhD thesis, МГУ им. Ломоносова, мехмат, Москва, 1985
2. Alexander Shen. *Алгоритмические варианты понятия энтропии.* Диссертация на соискание ученой степени кандидата физико-математических наук. Научный руководитель В.А.Успенский. PhD thesis, МГУ им. Ломоносова, 1985