

Melvyn B. Nathanson: Books

Monographs

1. *Additive Number Theory: The Classical Bases*, Graduate Texts in Mathematics, Vol. 164, Springer-Verlag, New York, 1996.
2. *Additive Number Theory: Inverse Problems and the Geometry of Sumsets*, Graduate Texts in Mathematics, Vol. 165, Springer-Verlag, New York, 1996.
3. *Elementary Methods in Number Theory*, Graduate Texts in Mathematics, Vol. 195, Springer-Verlag, New York, 2000.
4. *Additive Number Theory: Extremal Problems and the Combinatorics of Sumsets*, Graduate Texts in Mathematics, Springer, New York, 2009, to appear.
5. *Additive Number Theory: Density Problems and the Growth of Sumsets*, Graduate Texts in Mathematics, Springer, New York, 2010, to appear.

Proceedings

6. *Number Theory Day: Proceedings of the Conference held at Rockefeller University, New York, March 4, 1976*, Edited by M. B. Nathanson, Lecture Notes in Mathematics, Vol. 626, Springer-Verlag, Berlin, 1977.
7. *Number Theory, Carbondale 1979: Proceedings of the Southern Illinois Number Theory Conference, held at Southern Illinois University, Carbondale, Ill., March 30–31, 1979*, Edited by M. B. Nathanson, Lecture Notes in Mathematics, Vol. 751, Springer, Berlin, 1979.
8. *Number Theory: Proceedings of the seminar held at the City University of New York, New York, 1982*, Edited by D. V. Chudnovsky, G. V. Chudnovsky, H. Cohn, and M. B. Nathanson, Lecture Notes in Mathematics, Vol. 1052, Springer-Verlag, Berlin, 1984.
9. *Number Theory: Proceedings of the seminar held at the City University of New York, New York, 1983–1984*, Edited by D. V. Chudnovsky, G. V. Chudnovsky, H. Cohn, and M. B. Nathanson, Lecture Notes in Mathematics, Vol. 1135, Springer-Verlag, Berlin, 1985.
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11. *Number Theory: Proceedings of the seminar held at the City University of New York, New York, 1985–1988*, Edited by D. V. Chudnovsky, G. V. Chudnovsky, H. Cohn, and M. B. Nathanson, Lecture Notes in Mathematics, Vol. 1383, Springer-Verlag, Berlin, 1989.
12. *Number Theory: Papers from the seminar held at the City University of New York, New York, 1989–1990*, Edited by D. V. Chudnovsky, G. V. Chudnovsky, H. Cohn, and M. B. Nathanson, Springer-Verlag, New York, 1991.
13. *Number Theory: Papers from the seminars held at the City University of New York, New York, 1991–1995*, Edited by D. V. Chudnovsky, G. V. Chudnovsky, and M. B. Nathanson, Springer-Verlag, New York, 1996.
14. *Number Theory: Papers from the seminar (NYNTS) held at the City University of New York, New York, 2003*, Edited by D. V. Chudnovsky, G. V. Chudnovsky, and M. B. Nathanson, Springer-Verlag, New York, 2004.

15. *Unusual Applications of Number Theory: Proceedings of the DIMACS Workshop held at Rutgers University, January 10–14, 2000*, Edited by M.B. Nathanson, DIMACS Series in Discrete Mathematics and Theoretical Computer Science, Vol. 64, American Mathematical Society, Providence, RI, 2004.
16. *Combinatorial Number Theory*, Edited by B. M. Landman, M. B. Nathanson, J. Nešetřil, and C. Pomerance, de Gruyter, Berlin, 2007
17. *Additive Combinatorics*, Edited by A. Granville, M. B. Nathanson, and J. Solymosi, Amer. Math. Soc., Providence, 2007.

Translations

18. Anatolij A. Karatsuba, *Basic Analytic Number Theory*, Translated from the second (1983) Russian Edition and with a preface by Melvyn B. Nathanson, Springer-Verlag, Berlin, 1993.
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Other

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21. *Nuclear Nonproliferation: The Spent Fuel Problem* (Pergamon policy studies on energy and environment), Harvard University Nuclear Nonproliferation Study Group, Pergamon Press, 1979.

Melvyn B. Nathanson: Papers

1971

1. Derivatives of binary sequences, SIAM J. Appl. Math. 21 (1971), 407–412.

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2. An exponential congruence of Mahler, Amer. Math Monthly 79 (1972), 55–57.
3. On the greatest order of an element in the symmetric group, Amer. Math Monthly 79 (1972), 500–501.
4. Complementing sets of n -tuples of integers, Proc. Amer. Math. Soc. 34 (1972), 71–72.
5. Shift dynamical systems over finite fields, Proc. Amer. Math. Soc. 34 (1972), 591–594.
6. Sums of finite sets of integers, Amer. Math. Monthly 79 (1972), 1010–1012
7. Integrals of binary sequences, SIAM J. Appl. Math. 23 (1972), 84–86.

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8. On the fundamental domain of a discrete group, *Proc. Amer. Math. Soc.* 41 (1973), 629–630.

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9. Catalan's equation in $K(t)$, *Amer. Math. Monthly* 81 (1974), 371–373.
10. Minimal bases and maximal nonbases in additive number theory, *J. Number Theory* 6 (1974), 324–333.
11. Approximation by continued fractions, *Proc. Amer. Math. Soc.* 45 (1974), 323–324.

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12. Maximal asymptotic nonbases (with P. Erdős), *Proc. Amer. Math. Soc.* 48 (1975), 57–60.
13. Products of sums of powers, *Math. Mag.* 48 (1975), 112–113.
14. Linear recurrences and uniform distribution, *Proc. Amer. Math. Soc.* 48 (1975), 289–291.
15. An algorithm for partitions, *Proc. Amer. Math. Soc.* 52 (1975), 121–124
16. Oscillations of bases for the natural numbers (with P. Erdős), *Proc. Amer. Math. Soc.* 53 (1975), 253–258
17. Round metric spaces, *Amer. Math. Monthly* 82 (1975), 738–741.
18. Essential components in discrete groups, *Amer. Math. Monthly* 82 (1975), 834

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19. Polynomial Pell's equations, *Proc. Amer. Math. Soc.* 56 (1976), 89–92.
20. Partial products in finite groups, *Discrete Math.* 15 (1976), 201–203.
21. Partitions of the natural numbers into infinitely oscillating bases and nonbases (with P. Erdős), *Comment. Math. Helv.* 51 (1976), 171–182.
22. Piecewise linear functions with almost all points eventually periodic, *Proc. Amer. Math. Soc.* 60 (1976), 75–81.
23. Difference operators and periodic sequences over finite modules, *Acta Math. Acad. Sci. Hungar.* 28 (1976), 219–224.
24. Mellin's formula and some combinatorial identities (with S. Chowla), *Monatsh. Math.* 81 (1976), 261–265.
25. Prime polynomial sequences (with S. D. Cohen and P. Erdős), *J. London Math. Soc.* (2) 14 (1976), 559–562.

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26. Permutations, periodicity, and chaos, *J. Combinatorial Theory Ser. A* 22 (1977), 61–68.
27. s -maximal nonbases of density zero, *J. London Math. Soc.* (2) 15 (1977), 29–34.
28. Nonbases of density zero not contained in maximal nonbases (with P. Erdős), *J. London Math. Soc.* (2) 15 (1977), 403–405.
29. Asymptotic distribution and asymptotic independence of sequences of integers, *Acta Math. Acad. Sci. Hungar.* 29 (1977), 207–218.
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31. Multiplication rules for polynomials, Proc. Amer. Math. Soc. 69 (1978), 210–212.
32. Sets of natural numbers with no minimal asymptotic bases (with P. Erdős), Proc. Amer. Math. Soc. 70 (1978), 100–102.
33. Monomial congruences, Monatsh. Math. 85 (1978), 199–200.
34. Representation functions of sequences in additive number theory, Proc. Amer. Math. Soc. 72 (1978), 16–20.

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35. Bases and nonbases of squarefree integers (with P. Erdős), J. Number Theory. 11 (1979), 197–208.
36. Additive h -bases for lattice points, in: *Second International Conference on Combinatorial Mathematics (New York, 1978)*, Ann. New York Acad. Sci. 319 (1979), 413–414.
37. Systems of distinct representatives and minimal bases in additive number theory (with P. Erdős), in: *Number theory, Carbondale 1979 (Proc. Southern Illinois Conf., Southern Illinois Univ., Carbondale, Ill., 1979)*, Lecture Notes in Math., Vol. 751, Springer, Berlin, 1979, pages 89–107.
38. Classification problems in K -categories, Fund. Math. 105 (1979/80), 187–197.

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39. Sumsets of measurable sets, Proc. Amer. Math. Soc. 78 (1980), 59–63.
40. Connected components of arithmetic graphs, Monatsh. Math. 89 (1980), 219–222.
41. Minimal asymptotic bases for the natural numbers (with P. Erdős), J. Number Theory 12 (1980), 154–159.
42. Sumsets contained in infinite sets of integers, J. Combin. Theory Ser. A 28 (1980), 150–155.
43. Lagrange's theorem with $N^{1/3}$ squares (with S. L. g. Choi and P. Erdős), Proc. Amer. Math. Soc. 79 (1980), 203–205.
44. Arithmetic progressions contained in sequences with bounded gaps, Canad. Math. Bull. 23 (1980), 491–493.

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45. Waring's problem for sets of density zero, in *Analytic number theory (Philadelphia, Pa., 1980)*, Lecture Notes in Math., Vol. 899, Springer, Berlin, 1981, pages 301–310.
46. Lagrange's theorem and thin subsequences of squares (with P. Erdős), in: *Contributions to Probability*, Academic Press, New York, 1981, pages 3–9.

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47. Largest and smallest maximal sets of pairwise disjoint partitions, J. Number Theory 17 (1983), 103–112.

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48. The exact order of subsets of additive bases, in: *Number Theory (New York, 1982)*, Lecture Notes in Math., Vol. 1052, Springer, Berlin, 1984, pages 273–277.

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51. Waring’s problem for finite intervals, *Proc. Amer. Math. Soc.* 96 (1986), 15–17.
52. Independence of solution sets in additive number theory (with P. Erdős), in: *Probability, statistical mechanics, and number theory*, *Adv. Math. Suppl. Stud.*, Vol. 9, Academic Press, Orlando, FL, 1986, pages 97–105.

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53. A short proof of Cauchy’s polygonal number theorem, *Proc. Amer. Math. Soc.* 99 (1987), 22–24
54. An extremal problem for least common multiples, *Discrete Math.* 64 (1987), 221–228.
55. Multiplicative representations of integers, *Israel J. Math.* 57 (1987), 129–136.
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57. Problems and results on minimal bases in additive number theory (with P. Erdős), in: *Number Theory (New York, 1984–1985)*, *Lecture Notes in Math.*, Vol. 1240, Springer, Berlin, 1987, pages 87–96.
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59. Sums of polygonal numbers, in: *Analytic number theory and Diophantine problems (Stillwater, OK, 1984)*, *Progr. Math.*, Vol. 70, Birkhäuser Boston, Boston, 1987, pages 305–316.

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60. Sumsets containing infinite arithmetic progressions (with P. Erdős and A. Sárközy), *J. Number Theory* 28 (1988), 159–166.
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65. On the maximum density of minimal asymptotic bases (with A. Sárközy), *Proc. Amer. Math. Soc.* 105 (1989), 31–33.
66. A simple construction of minimal asymptotic bases (with X.-D. Jia), *Acta Arith.* 52 (1989), 95–101.
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- 79. An inverse theorem for sums of sets of lattice points, J. Number Theory 46 (1994), 29–59
- 80. Addition theorems for σ -finite groups (with X.-D. Jia), in: *The Rademacher legacy to mathematics (University Park, PA, 1992)*, Contemp. Math., Vol. 166, Amer. Math. Soc., Providence, RI, 1994, pages 275–284.

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- 82. Independence of solution sets and minimal asymptotic bases (with P. Erdős and P. Tetali), Acta Arith. 69 (1995), 243–258.
- 83. Adding distinct congruence classes modulo a prime (with N. Alon and I. Z. Ruzsa), Amer. Math. Monthly 102 (1995), 250–255.

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- 84. The polynomial method and restricted sums of congruence classes (with N. Alon and I. Z. Ruzsa), *J. Number Theory* 56 (1996), 404–417.
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- 86. Finite graphs and the number of sums and products (with X.-D. Jia), in: *Number theory (New York, 1991–1995)*, Springer, New York, 1996, pages 211–219.

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- 90. Inverse theorems and the number of sums and products (with G. Tenenbaum), in: *Structure theory of set addition*, Astérisque 258 (1999), 195–204.
- 91. Number theory and semigroups of intermediate growth, *Amer. Math. Monthly* 106 (1999), 666–669.

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- 95. Growth of sumsets in abelian semigroups, *Semigroup Forum* 61 (2000), 149–153.

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- 103. Representation functions of additive bases for abelian semigroups, *Int. J. Math. Math. Sci.* (2004), 29–32.
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- 111. Density of sets of natural numbers and the Lévy group (with R. Parikh), *J. Number Theory* 124 (2007), 151–158.
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- 121. Tennenbaum at Penn and Rochester, *Integers* 8:2 (2008), 2–5.

122. Perfect difference sets constructed from Sidon sets (with J. Cilleruelo), *Combinatorica*, to appear.
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124. Maximal Sidon sets and matroids (with J. Dias da Silva), *Discrete Math.*, to appear.
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130. Adjoining identities and zeros to semigroups, preprint.
131. Dense sets of integers with prescribed representation functions (with J. Cilleruelo), preprint.
132. Families of linear semigroups of intermediate growth, preprint.
133. Semidirect products and functional equations for quantum multiplication, preprint.
134. The spectrum of bases of finite order in additive number theory, preprint.
135. Desperately seeking mathematical proof, preprint.