

REFERENCES

- [Al16] P. Aleksandrov, Sur la puissance des ensembles mesurables, *Bulletin Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences, Paris*, B. 162 (1916), 323-325, 1916.
- [Ar59,62] V.I. Arnold, On the representation of continuous functions of three variables by the superpositions of continuous functions of two variables. *Matem. Sbornik*, 1959, 48:1, 3-74 and 1962, 56:3, 392.
- [Ara98] T. Arai, Some results on cut-elimination, provable well-orderings, induction and reflection, *Ann. Pure Appl. Logic* 95 (1998), no. 1-3, 93-184.
- [Art27] E. Artin, Über die Zerlegung definiter Funktionen in Quadrate. *Hamb. Abh.* 5, 100-115 (1927); Collected Papers 273-288.
- [As04] M. Aschenbrenner, Ideal membership in polynomial rings over the integers, *Journal of the AMS*, 17 (2004), 407-441.
- [Av03] J. Avigad, Number theory and elementary arithmetic, *Philosophia Mathematica*, 11:257-284, 2003
- [AH77] K. Appel and W. Haken, Every planar map is four-colorable. I. Discharging, *Illinois Journal of Mathematics* 21 (1977), 429-490
- [AH77] K. Appel, W. Haken and J. Koch, Every planar map is four-colorable. II. Reducibility, *Illinois Journal of Mathematics* 21 (1977), 491-567.
- [AH89] K. Appel and W. Haken, Every planar map is four colorable, *A.M.S. Contemporary Math.* 98 (1989).
- [AK65] J. Ax and S. Kochen, Diophantine problems over local fields I. *Amer. J. Math.* 87, 1965, 605-630.
- [AK65a] J. Ax and S. Kochen, Diophantine problems over local fields II. *Amer. J. Math.* 87, 1965, 631-648.
- [AK66] J. Ax and S. Kochen, Diophantine problems over local fields III. *Ann. Math.* 83, 1966, 437-456.

[Ba75] J. Baumgartner, Ineffability properties of cardinals I. In: Hajnal-Rado-Sós, editors, Infinite and Finite Sets. Colloquia Mathematica Societatis Janos Bolyai vol. 10. Amsterdam, North-Holland 1975.

[Be73] C. Berge, Graphs and Hypergraphs, North-Holland Mathematical Library, 1973, English translation, originally published in French, 1970.

[Bek06] L. Beklemishev, The Worm principles. In: Z Chatzidakis, P. Koepke, W. Pohlers, editors, Logic Colloquium '02, Lecture Notes in Logic 27, ASL Publications.

[Bi11] L. Bieberbach, (1911), "Über die Bewegungsgruppen der Euklidischen Räume", Mathematische Annalen 70 (3): 297-336, doi:10.1007/BF01564500, ISSN 0025-5831

[Bi12] L. Bieberbach, (1912), "Über die Bewegungsgruppen der Euklidischen Räume (Zweite Abhandlung.) Die Gruppen mit einem endlichen Fundamentalbereich", Mathematische Annalen 72 (3): 400-412, doi:10.1007/BF01456724, ISSN 0025-5831

[Bo07] A. Bovykin, Unprovability of sharp versions of Friedman's sine-principle (2007), Proceedings of the American Mathematical Society, 135, 2967-2973.

[Br76] F. Browder (editor), Mathematical Developments Arising from Hilbert Problems, Proceedings of Symposia in Pure Mathematics XXVIII (1976), American Mathematical Society.

[Bu87] W. Buchholz, An independence result for $\Pi^1_1\text{-CA} + \text{BI}$, Annals of Pure and Applied Logic 33 (1987) 131-155.

[Bu91] W. Buchholz, Notation systems for infinitary derivations, Arch. Math. Logic 30 (1991), no 5-6, 177-196.

[BFPS81] W. Buchholz, S. Feferman, W. Pohlers, W. Sieg, Iterated Inductive Definitions and Subsystems of Analysis: Recent Proof-Theoretical Studies, Lecture Notes in Mathematics 897, Springer-Verlag, 1981.

[BG06] E. Boros and V. Gurvich, Perfect graphs, kernels and cooperative games, Discrete Mathematics, 306 (2006) 2336-2354.

[BK96] H. Becker and A. Kechris, *The Descriptive Set Theory of Polish Group Actions*, London Math. Soc. Lecture Note Series, 232, Cambridge University Press, 1996.

[BGG01] E. Börger, E. Gradel, and Y. Gurevich, *The Classical Decision Problem*, Universitext, Springer, 2001.

[BM90] M.R. Burke, M. Magidor, *Shelah's pcf Theory and its Applications*, Annals of Pure and Applied Logic, vol. 50, no. 3, 1990, pp. 207-254.

[BW87] W. Buchholz and S. Wainer, *Provably computable functions and the fast growing hierarchy*. In: *Logic and Combinatorics*, Amer. Math. Soc., Contemporary Mathematics, Volume 65, 1987, pp. 179-198.

[Ci83] E.A. Cichon, *A short proof of two recently discovered results using recursion theoretic methods*, Proceedings of the AMS 87, 1983, pp. 704-706.

[Co63,64] P.J. Cohen, *The independence of the continuum hypothesis*. Proc. Nat. Acad. Sci. U.S.A. 50 (1963), 1143-1148; 51, 105-110.

[Co69] P.J. Cohen, *Decision procedures for real and p-adic fields*. Comm. Pure Appl. Math. XXII, 1969, 131-151.

[CDW10] L. Carlucci, P. Dehornoy, and A. Weiermann, *Unprovability results involving braids*, Proceedings of the London Mathematical Society, Proc. London Math. Soc. (2011) 102(1): 159-192.

[CFS10] D. Conlon, J. Fox, B. Sudakov, *Higher Ramsey Numbers*, J. Amer. Math. Soc., 23 (2010), 247-266.

[CGHJ05] Peter Cholak, Mariagnese Giusto, Jeffry Hirst, and Carl Jockusch, *Free sets and reverse mathematics*, in: *Reverse Mathematics*, ed. S. Simpson, Lecture Notes in Logic, Association for Symbolic Logic, 1905.
<http://www.nd.edu/~cholak/papers/preincollection.html>

[CJS01], P. Cholak, C. Jockusch, T. Slaman, *On the strength of Ramsey's theorem for pairs*. Journal of Symbolic Logic, 66, No.1, 1-55 (2001).

[CLW11] L. Carlucci, G. Lee, A. Weiermann, *Sharp thresholds for hypergraph regressive Ramsey numbers*, Journal of Combinatorial Theory, Series A 118 (2011), pp.

558-585.

[CM07] M. Carl and B.Z. Moroz, On a Diophantine representation of the predicate of provability, Max-Planck Institute Preprint Series, 2007, 21 pages.

[CP86] G. Cherlin and F. Point, Humboldt University, Seminarberichte Number 86, Proceedings of the Fourth Easter Conference on Model Theory, Gross Koris, March 31 - April 5, 1986.

[CT06] A.M. Castravet and J. Tevelev, Hilbert's 14'th problem and Cox rings. *Compositio Math.* 142 (2006), 1479 - 1498.

[Da73] M. Davis, Hilbert's tenth problem is unsolvable, *Amer. Math. Mon.* Vol. 80, 1973, p. 233-269.

[Day61] D. Daykin, Hilbert's 17th problem. Ph.D. Thesis, unpublished (1961).

[De84] K. Devlin, Constructibility. Perspectives in Mathematical Logic. Berlin, Springer-Verlag 1984.

[Deh94] P. Dehornoy, Braid groups and left distributive operations, *Trans. Amer. Math. Soc.* 345 (1994), 115-150.

[Deh00] P. Dehornoy, Braids and Self Distributivity, Progress in Mathematics, volume 192; xvi + 624 pages, Birkhauser (2000).

[De01] M. Dehn, "Über den Rauminhalt", *Mathematische Annalen* 55 (1901), no. 3, p. 465-478.

[Dr98] L. van den Dries, Tame Topology and o-minimal Structures, London Mathematical Society Lecture Note Series, 248, Cambridge University Press, 1998.

[DG82] C. Dimitracopoulos and H. Gaifman, Fragments of Peano's Arithmetic and the MRDP theorem, in Logic and Algorithmic, Monogr. Enseign. Math. University of Geneva, 1982, pp. 187-206.

[DGL92] C. Delzell, L. Gonzalez-Vega, and H. Lombardi, A new rational and continuous solution for the Hilbert's 17th problem, *Extracta Mathematicae* 7(1) (1992), 59-64.

[DJ97] R. Dougherty and T. Jech, Left-Distributive

Embedding Algebras, Electronic Research Announcements of the American Mathematical Society, Vol. 3, 28-37 (April 9, 1997).

[DJ97a] R. Dougherty and T. Jech, Finite left-distributive algebras and embedding algebras, Advances in Mathematics 130 (1997), 201-241.

[DLR95] D. Duffus, H. Lefmann, V. Rödl, Shift graphs and lower bounds on Ramsey numbers $\text{rk}(l;r)$, Discrete Mathematics, Volume 137, Issue 1-3, p. 177-187, January 1995.

[DM94] L. van den Dries and C. Miller, On the real exponential field with restricted analytic functions, Israel J. Math. 85 (1994), 19-56.

[DM96] L. van den Dries and C. Miller, Geometric categories and o-minimal structures, Duke Math. J. 84 (1996), 497-540.

[DMM94] L. van den Dries, A. Macintyre, and D. Marker, The elementary theory of restricted analytic fields with exponentiation, Ann. of Math. 140 (1994), 183-205.

[DMR76] M. Davis, Y. Matiyasevich, and J. Robinson, Hilbert's Tenth Problem. Diophantine Equations: Positive Aspects of a Negative Solution, in: Mathematical developments arising from Hilbert Problems, Proceedings of Symposia in Pure Mathematics, Volume XXVIII, Part 2, 1976, 323-378.

[DP77] D.H.J. de Jongh and R. Parikh, Well-partial orderings and hierarchies, Nederl. Akad. Wetensch. Proc. Ser. A 80, Indag. Math. 39 (1977), no. 3, 195-207.

[DPR61] M. Davis, H. Putnam, J. Robinson, The decision problem for exponential Diophantine equations, Annals of Mathematics, Vol. 74, 1961, p. 425-436.

[DS96] G. Debs and J. Saint Raymond, Compact covering and game determinacy, Topology and Its Applications, vol 68 (1996), pp. 153-185.

[DS99] G. Debs and J. Saint Raymond, Cofinal Σ^1_1 and Π^1_1 subsets of $\mathbb{N}^{\mathbb{N}}$, Fundamenta Mathematicae, vol. 159 (1999), pp. 161-193.

[DS01] G. Debs and J. Saint Raymond, Compact covering mappings and cofinal families of compact subsets of a Borel set, *Fundamenta Mathematicae*, vol. 167 (2001), pp. 213-249.

[DS04] G. Debs and J. Saint Raymond, Compact covering mappings between Borel sets and the size of constructible reals, *Transactions of the American Mathematical Society*, vol. 356 (2004), pp. 73-117.

[DS07] G. Debs and J. Saint Raymond, Borel Lifting of Borel Sets: Some Decidable and Undecidable Statements, *Memoirs of the AMS*, vol. 187, No. 876, May 2007.

[Ec92] J. Ecalle, Introduction aux fonctions analysables et preuve constructive de la conjecture de Dulac. (French) Introduction to analyzable functions and constructive proof of the Dulac conjecture (*Actualités Mathématiques. Current Mathematical Topics* Hermann, Paris.) 1992.

[Eg98] L. Egidi, A quantifier elimination for the theory of p-adic numbers, *Computational Complexity*, 7 (1998), 205 - 263, Birkhauser Verlag, Basel 1998.

[El88] N. Elkies, On $A^4 + B^4 + C^4 = D^4$, *Mathematics of Computation* 51 (184), 1988, 825-835.

[En72] H.B. Enderton, *A Mathematical Introduction to Logic*, Academic Press, 1972, XIII+295.

[EHMR84] P. Erdos, A. Hajnal, A. Mate, R. Rado, *Combinatorial Set Theory: Partition Relations for Cardinals*, Studies in Logic and the Foundations of Mathematics, vol. 106, North-Holland, 1984.

[EM81] P. Erdos and G. Mills, Some bounds for the Ramsey-Paris-Harrington numbers, *Journal of Combinatorial Theory, Series A* Vol. 30, No. 1, January 1981, p. 53-70.

[EMS87] F. van Engelen, A.W. Miller, J. Steel, Rigid Borel sets and better quasiorder theory, in: *Logic and Combinatorics*, Contemporary Mathematics, Vol. 65, American Mathematical Society, 229-261.

[Fe60] S. Feferman, Arithmetization of metamathematics in a general setting, *Fundamenta Mathematicae* 49 (1960), 35-92.

[Fe64] Systems of predicative analysis, *Journal of Symbolic Logic*, vol. 29 (1964), pp. 1-30.

- [Fe70] S. Feferman, Formal theories for transfinite iterations of generalized inductive definitions and some subsystems of analysis, in Intuitionism and Proof Theory, (Proc. Conf., Buffalo, 1968), pp. 303-326, North-Holland, Amsterdam, 1970.
- [Fe82] S. Feferman, Inductively presented systems and the formalization of meta-mathematics, in Logic Colloquium '80, pp. 95-128, North-Holland, Amsterdam, 1982.
- [Fe05] S. Feferman, Predicativity. The Oxford Handbook of the Philosophy of Mathematics and Logic (S. Shapiro ed.), Oxford University Press, Oxford (2005) 590-624.
- [FeR79] J. Ferrante and C. Rackoff, 1979. The Computational Complexity of Logical Theories. Lecture Notes in Mathematics 718. Springer-Verlag.
- [Fr67] H. Friedman, Subsystems of set theory and analysis, Ph.D., MIT, 1967.
- [Fr69] H. Friedman, Bar induction and Π^1_1 -CA, Journal of Symbolic Logic 34 (1969), 353-362.
- [Fr70] H. Friedman, Iterated inductive definitions and Σ^1_2 -AC, in: Intuitionism and Proof Theory, ed. A. Kino, j. Myhill, R.E. Vesley, Studies in Logic and the Foundations of Mathematics, North-Holland, 1970, pp. 435-442.
- [Fr71] H. Friedman, Higher set theory and mathematical practice, Annals of Math. Logic, Vol. 2, No. 3, (1971), pp. 325-357.
- [Fr71a] H. Friedman, A more explicit set theory, in: Axiomatic Set Theory, Proceedings of Symposia in Pure Mathematics, Vol. XIII, Part 1, AMS, 1971, 49-65.
- [Fr73] H. Friedman, Countable Models of Set Theories, Lecture Notes in Mathematics, Vol. 337, Springer-Verlag, (1973), pp. 539-573.
- [Fr74] H. Friedman, Some systems of second order arithmetic and their use, Proceedings of the International Congress of Mathematicians (Vancouver, B. C., 1974), Vol. 1, 1975, pp. 235-242.
- [Fr75-76] H. Friedman, The Analysis Of Mathematical Texts,

And Their Calibration In Terms Of Intrinsic Strength I-IV, 1975. The Logical Strength Of Mathematical Statements I, 1976. <http://www.math.ohio-state.edu/%7Efriedman/manuscripts.html>, Preprints, Drafts, and Abstracts, 1.

[Fr76] H. Friedman, Abstracts: Systems of second order arithmetic with restricted induction, I and II, *J. Symbolic Logic* 41 (1976), 557-559.

[Fr78] H. Friedman, On rates of growth and sizes of proofs, unpublished notes, Ohio State University, February, 1978.

[Fr79] H. Friedman, On the incompleteness of axiomatic set theory (abstract), unpublished notes, Ohio State University, March, 1978.

[Fr80] H. Friedman, A Consistent Fubini-Tonelli Theorem for Nonmeasurable Functions, *Illinois J. Math.*, Vol. 24, No. 3, (1980), pp. 390-395.

[Fr80a] H. Friedman, Translatability and relative consistency II, unpublished notes, Ohio State University, September, 1980.

[Fr81] H. Friedman, On the Necessary Use of Abstract Set Theory, *Advances in Math.*, Vol. 41, No. 3, September 1981, pp. 209-280.

[Fr81a] H. Friedman, Independence results in finite graph theory I-VII. Unpublished manuscripts, Ohio State University, 76 pages, February-March 1981.

[Fr82] H. Friedman, Beyond Kruskal's theorem, Unpublished manuscripts, Ohio State University, 48 pages, June-July 1982.

[Fr83] H. Friedman, Unary Borel Functions and Second Order Arithmetic, *Advances in Math.*, Vol. 50, No. 2, November 1983, pp. 155-159.

[Fr84] H. Friedman, Notes on Kruskal's Theorem, Unpublished handwritten notes, Ohio State University, 163 pages, 1984.

[Fr86] H. Friedman, Necessary Uses of Abstract Theory in Finite Mathematics, *Advances in Math.*, Vol. 60, No. 1, 1986, 92-122.

[Fr92] H. Friedman, The Incompleteness Phenomena, Proceedings of the AMS Centennial Celebration, AMS Centennial Publications, Volume II, Mathematics into the Twenty-first Century, 1992, pp. 49-84.

[Fr98] H. Friedman, Finite Functions and the Necessary Use of Large Cardinals, Annals of Math., Vol. 148, No. 3, 1998, pp. 803-893.

[Fr99] H. Friedman, #39:Large Cardinals/Synthesis, FOM posting, <http://www.cs.nyu.edu/pipermail/fom/1999-April/003027.html>

[Fr99a] H. Friedman, #53:Free sets/Reverse Math, FOM posting, <http://www.cs.nyu.edu/pipermail/fom/1999-July/003306.html>
<http://www.cs.nyu.edu/pipermail/fom/1999-July/003307.html>

[Fr99b] H. Friedman, Adjacent Ramsey Theory, #23, <http://www.math.ohio-state.edu/%7Efriedman/manuscripts.html> October, 1999.

[Fr99c] H. Friedman, #61:Finitist proofs of conservation, FOM posting, <http://www.cs.nyu.edu/pipermail/fom/1999-September/003405.html> September, 1999.

[Fr00] H. Friedman, #92:Thin Set Theorem, FOM posting, <http://www.cs.nyu.edu/pipermail/fom/2000-June/004183.html>

[Fr01] H. Friedman, Subtle Cardinals and Linear Orderings, Annals of Pure and Applied Logic 107 (2001), 1-34.

[Fr01a] H. Friedman, Boolean relation theory notes, October 6, 2001, 20 pages, <http://www.math.ohio-state.edu/%7Efriedman/>.

[Fr01b] H. Friedman, Lecture notes on baby Boolean relation theory, October 3, 2001, 11 pages, <http://www.math.ohio-state.edu/%7Efriedman/>.

[Fr01c] H. Friedman, Long Finite Sequences, Journal of Combinatorial Theory, Series A 95, 102-144 (2001).

[Fr02] H. Friedman, Internal finite tree embeddings, Reflections on the Foundations of Mathematics: Essays in honor of Solomon Feferman, ed. Sieg, Sommer, Talcott, Lecture Notes in Logic, volume 15, 62-93, 2002, ASL.

[Fr02a] H. Friedman, Equational Boolean relation theory, September 3, 2002, 25 pages, <http://www.math.ohio-state.edu/%7Efriedman/>.

[Fr02b] H. Friedman, Demonstrably necessary uses of abstraction, Hans Rademacher Lectures, University of Pennsylvania, September 17-20, 2002, 53 pages, <http://www.math.ohio-state.edu/%7Efriedman/>.

[Fr03a] H. Friedman, Primitive Independence Results, Journal of Mathematical Logic, Volume 3, Number 1, May 2003, 67-83.

[Fr03b] H. Friedman, Three quantifier sentences, Fundamenta Mathematicae, 177 (2003), 213-240.

[Fr04] H. Friedman, Working with Nonstandard Models, in: Nonstandard Models of Arithmetic and Set Theory, American Mathematical Society, ed. Enayat and Kossak, 71-86, 2004.

[Fr04a] H. Friedman, Adventures in the foundations of mathematics, VIGRE Lectures, Ohio State University, April 28-May 7, 2003, 64 pages, <http://www.math.ohio-state.edu/%7Efriedman/>.

[Fr04b] H. Friedman, Unprovable theorems, April 15, 2004, 11 pages, <http://www.math.ohio-state.edu/%7Efriedman/>.

[Fr05] H. Friedman, Selection for Borel relations, in: Logic Colloquium '01, Lecture Notes in Logic, LNL 20, Association for Symbolic Logic, ed. Matthias Baaz, Sy David Friedman, J. Krajicek, 151-169, 2005.

[Fr05a] H. Friedman, Metamathematics of comparability, in: Reverse Mathematics 2001, Lecture Notes in Logic, LNL 21, Association for Symbolic Logic, edited by S.G. Simpson, 201-218, 2005.

[Fr05b] H. Friedman, Maximal nonfinitely generated subalgebras, in: Reverse Mathematics 2001, Lecture Notes in Logic, LNL 21, Association for Symbolic Logic, edited by S.G. Simpson, 189-200, 2005.

[Fr06] Concept Calculus, October 25, 2006, 42 pages, abstract. <http://www.math.ohio-state.edu/%7Efriedman/manuscripts.html>, Preprints, Drafts, and Abstracts, No. 53, 2006.

[Fr07] H. Friedman, The Nineteenth Annual Tarski Lectures, Interpretations of Set Theory in Discrete Mathematics and Informal Thinking, UC Berkeley, April, 2007. Lecture 1: Interpretations, According to Tarski. Lecture 2: Interpreting Set Theory in Discrete Mathematics: Boolean Relation Theory. Lecture 3: Interpreting Set Theory in Ordinary Thinking: Concept Calculus. <http://www.math.ohio-state.edu/%7Efriedman/manuscripts.html> Preprints, Drafts, and Abstracts, No. 60, 2007.

[Fr07a] H. Friedman, New Borel independence results, unpublished, <http://www.math.ohio-state.edu/%7Efriedman/manuscripts.html> Preprints, Drafts, and Abstracts, No. 57, 2007.

[Fr07b] H. Friedman, Formal statements of Gödel's second incompleteness theorem, unpublished, <http://www.math.osu.edu/~friedman/manuscripts.html>, Preprints, Drafts, and Abstracts, No. 56, 2007.

[Fr08] H. Friedman, PA Incompleteness. Draft, January 23, 2008. Revised version to appear.

[Fr09] H. Friedman, The Inevitability of Logical Strength: strict reverse mathematics, in: Logic Colloquium '06, ASL, p. 135-183, 2009.

[Fr09a] H. Friedman, Strict Reverse Mathematics, Reverse Mathematics Workshop, University of Chicago, November 7, 2009, 19 pages. <http://www.math.ohio-state.edu/%7Efriedman/manuscripts.html> Lecture Notes, 47.

[Fr09-10] H. Friedman, FOM postings #340-433, FOM Archives, <http://www.cs.nyu.edu/pipermail/fom/> May 13, 2009 - June 2, 2010,

[Fr10] H. Friedman, Forty years on his shoulders, in: Kurt Gödel and the Foundations of Mathematics: Horizons of Truth, Cambridge University Press, 2010.

[Fr10a] H. Friedman, Adjacent Ramsey Theory, <http://www.math.ohio-state.edu/%7Efriedman/manuscripts.html> Preprints, Drafts, and Abstracts, No. 66, 2010, 17 pages.

[Fr11] H. Friedman, Concept Calculus: Much Better Than, in: Infinity, New Research Frontiers, ed. Michael Heller, and W. Hugh Woodin, Cambridge University Press, 2011, 311 pages.

[Fr∞] H. Friedman, Gödel Incompleteness Restated, in preparation.

[FH90] H. Friedman and J. Hirst, Weak comparability of well orderings and reverse mathematics, *Annals of Pure and Applied Logic*, vol. 7 (1990), pp. 11-29.

[FH91] H. Friedman and J. Hirst, Reverse mathematics of homeomorphic embeddings, *Annals of Pure and Applied Logic*, vol. 54 (1991), pp. 229-253.

[FFMS00] H. Friedman, S. Feferman, P. Maddy, J. Steel, Does mathematics need new axioms?, *The Bulletin of Symbolic Logic*, volume 6, Number 4, December 2000, 401-446.

[FMS82] H. Friedman, K. McAloon, S. Simpson, A finite combinatorial principle which is equivalent to the 1-consistency of predicative analysis, in: Patras Logic Symposium, Studies in Logic and the Foundations of Mathematics, North-Holland, 1982.

[FMW∞] H. Friedman, A. Montalban, and A. Weiermann, Logical analysis of forms of Kruskal's Theorem, in preparation.

[FOM] Archives of the FOM e-mail list, from September 1997 to present, <http://www.cs.nyu.edu/pipermail/fom/>

[FR74] M. Fischer and M. Rabin, Super exponential complexity of Presburger arithmetic. SIAM-AMS Proceedings 7, 27 - 41.

[FRS87] H. Friedman, N. Robertson, P. Seymour, The metamathematics of the graph minor theorem, in: Logic and Combinatorics, Contemporary Mathematics, Vol. 65, American Mathematical Society, 229-261.

[FS00] H. Friedman and S. Simpson, Issues and problems in reverse mathematics, 127-144, in: Computability Theory and Its Applications, ed. Cholak, Lempp, Lerman, Shore, American Mathematical Society, 2000.

[FSS83] H. Friedman, S. Simpson, and R. Smith, Countable algebra and set existence axioms, *Annals of Pure and Applied Logic* 25 (1983), 141-181. Addendum: *Annals of Pure and Applied Logic* 27 (1985), 319-320.

- [FSh95] H. Friedman and M. Sheard, Elementary descent recursion and proof theory, *Annals of Pure and Applied Logic* 71 (1995), pp. 1-45.
- [FSt89] H. Friedman and L. Stanley, A Borel Reducibility Theory for Classes of Countable Structures, *J. of Symbolic Logic*, Vol. 54, No. 3, September 1989, pp. 894-914.
- [FVxx] H. Friedman and A. Visser, Interpretations Between Theories, book in preparation.
- [FWa] H. Friedman and A. Weiermann, Embeddings between unstructured and structured trees, in preparation.
- [FWb] H. Friedman and A. Weiermann, Kruskal's Theorem and ATR_0 , in preparation.
- [Gi87] J.Y. Girard, Proof Theory and Logical Complexity, Bibliopolis, 1987, 500 pages.
- [Go29] K. Gödel, On the completeness of the calculus of logic. In [Go86-03], Vol. I, 61-101.
- [Go31] K. Gödel, On formally undecidable propositions of Principia mathematica and related systems I. In: [Go86-03], Vol. I, 145-195.
- [Go38] K. Gödel, The consistency of the axiom of choice and of the generalized continuum hypothesis. In: [Go86-03], Vol. II, 26-27.
- [Go86-03] Collected Works. Vol. I-V. Oxford: Oxford University Press (S. Feferman et al., editors).
- [Goo44] R.L. Goodstein, On the restricted ordinal theorem, *Journal of Symbolic Logic* 9, 1944, pp. 33-41.
- [Gor89] L. Gordeev, Generalizations of the one-dimensional version of the Kruskal-Friedman theorems, *Journal of Symbolic Logic*, Vol. 54, No. 1, March 1989, 100-121.
- [Gor90] L. Gordeev, Generalizations of the Kruskal-Friedman Theorems, *Journal of Symbolic Logic*, Vol. 55, No. 1, March 1990.
- [Gor93] L. Gordeev, Strong well-quasi-ordering tree theorem, Preprint (1993), talk at Fourteenth British Combinatorial Conference (Keele, 1993).

<http://www-ls.informatik.uni-tuebingen.de/gordeew/publikationen/QuasiOrdering.pdf>

[Gow01] W.T. Gowers, A new proof of Szemerédi's theorem, *Geometric and Functional Analysis*, Volume 11, No. 3, 2001, pp. 465-588.

[Gr62] O. A. Gross, Preferential arrangements, *Amer. Math. Monthly* 69 (1962), 4-8.

[Gu94] R.K. Guy, Unsolved Problems in Number Theory, 2nd ed. New York: Springer-Verlag, pp. 139-144 and 192-193, 1994.

[GD82] H. Gaifman, C. Dimitracopoulos, Fragments of Peano Arithmetic and the MRDP theorem. In: Logic and algorithmic (Zurich, 1980) (Monograph. Enseign. Math., 30), Geneve, Univ. Geneve, 1982 p. 187-206.

[GLP98] J. Ghoshal, R.C. Laskar, D. Pillone, Topics on Domination in Directed Graphs, in: [HSS98].

[GRS80,90] R.L. Graham, B.L. Rothschild, J.H. Spencer, Ramsey Theory, John Wiley & Sons, 1980. Second edition, 1990.

[GS53] D. Gale and F. Stewart, Infinite games with perfect information, in: H.W. Kuhn and A.W. Tucker (eds.) Contributions to the Theory of Games, vol. 2, Annals of Mathematical Studies #28, Princeton University Press, 1953, 245-266.

[Ha10] G.H. Hardy, Orders of Infinity, Cambridge University Press, 1910, Cambridge Tracts in Mathematics, vol. 12.

[Ha12] G.H. Hardy, Properties of logarithmico-exponential functions, *Proc. London Math. Soc.* 10 (1912), 54-90.

[Has94] R. Hasegawa, Well-ordering of algebras and Kruskal's theorem, Logic, Language, and Computation, 133-172, Lecture Notes in Computer Science, 792, Berlin, 1994.

[Hau16] F. Hausdorff, Die Mächtigkeit der Borelschen Mengen, *Mathematische Annalen*, 77 (1916), 430-437, 1916.

[He26] G. Hermann, Die Frage der endlich vielen Schritte in der Theorie der Polynomideale, *Math. Ann.* 95 (1926), 736-788.

[Hei86] G. Heinzmann, ed., Poincaré, Russell, Zermelo et Peano. Textes de la discussion (1906-1912) sur les fondements des mathématiques: des antinomies à la prédictivité, Albert Blanchard (Paris), 1986.

[Hil1890] D. Hilbert, Über die Theorie der algebraischen Formen, Math. Ann., 36, (1890), 473-534.

[Hi00] D. Hilbert, "Mathematical Problems", Bulletin of the American Mathematical Society, vol. 8, no. 10 (1902), pp. 437-479. Earlier publications (in the original German) appeared in *Göttinger Nachrichten*, 1900, pp. 253-297, and *Archiv der Mathematik und Physik*, 3dser., vol. 1 (1901), pp. 44-63, 213-237.

[Hig52] G. Higman, Ordering by divisibility in abstract algebras, Proceedings of the London Mathematical Society, vol. 2 (1952), pp. 326-336.

[Hir94] J. Hirst, Reverse mathematics and ordinal exponentiation, Annals of Pure and Applied Logic 66 (1994), 1-18.

[Hir98], Reverse mathematics and ordinal multiplication, Mathematical Logic Quarterly, 44, (1998) 459-464.

[HB34,39] D. Hilbert and P. Bernays, Grundlagen der Mathematik, Vol. I. Berlin, 1934, xii + 471 pp.; Vol. II, Berlin 1939, xii + 498 pp. Second edition, Grundlehren der mathematischen Wissenschaften, Springer-Verlag, 1968-1970, volume I, XV + 475 pages, volume II, XIV + 561 pages.

[HHS98] T.W. Haynes, S.T. Hedetniemi, P.J. Slater, Fundamentals of Domination in Graphs, Marcel Dekker, 1998.

[HK96] G. Hjorth and A. Kechris, Borel equivalence relations and classifications of countable models, Ann. Pure and Appl. Logic 82 (1996), 221-272.

[HK97], G. Hjorth and A. Kechris, New dichotomies for Borel equivalence relations, Bull. Symb. Logic 3(3) (1997), 329-346.

[HK01] G. Hjorth and A. Kechris, Recent developments in the theory of Borel reducibility, Fund. Math. 170(1) (2001), 21-52 (volume dedicated to the memory of J. Los).

- [HKL98] G. Hjorth, A. Kechris, and A. Louveau, Borel equivalence relations induced by actions of the symmetric group, *Ann. Pure and Appl. Logic* 92 (1998), 63-112.
- [HKS87] A. Hajnal, A. Kanamori, S. Shelah, Regressive Partition Relations for Infinite Cardinals, *Transactions of the American Mathematical Society*, Volume 299, Number 1, January 1987, 145-154.
- [HMSS855] L.A. Harrington, M.D. Morley, A. Scdrov, S.G. Simpson (eds.), *Harvey Friedman's Research on the Foundations of Mathematics, Studies in Logic and the Foundations of Mathematics*, vol. 117, North-Holland, 1985.
- [HP93] P. Hajek, P. Pudlak, *Metamathematics of First-Order Arithmetic, Perspectives in Mathematical Logic*, Springer, 1993.
- [Il91] Yu.S. Il'yashenko, Finiteness theorems for limit cycles. (*Translations of Mathematical Monographs*, 94. American Mathematical Society, Providence, RI. 1991.
- [Ja80] G. Jäger, Theories for iterated jumps, unpublished notes, Oxford, 1980.
- [Je78,06] T. Jech, *Set Theory*, Academic Press, 1978, 621 p. Third Edition, Springer, 2006, 772 p.
- [Jen72] R. Jensen, The fine structure of the constructible hierarchy. *AML* 4 (1972), 229-308.
- [Jer73] R. Jerosolow, Redundancies in the Hilbert-Bernays Derivability Conditions for Gödel's Second Incompleteness Theorem, *J. Symbolic Logic* Volume 38, Issue 3 (1973), 359-367.
- [Ka89] A. Kanamori, Regressive Partitions and Borel Diagonalization, *The Journal of Symbolic Logic* 54 (1989), 540-552.
- [Ka91] A. Kanamori, Regressive Partitions, Borel Diagonalization, and n-subtle cardinals, *Annals of Pure and Applied Logic* 52 (1991), 65-77.
- [Ka94] A. Kanamori, *The Higher Infinite, Perspectives in Mathematical Logic*, Springer, 1994.

[Ke95] A. Kechris, Classical Descriptive Set Theory, Graduate Texts in Mathematics, 156, Springer-Verlag, 1994.

[Kre60] G. Kreisel, Sums of squares. Summaries of Talks Presented at the Summer Institute in Symbolic Logic in 1957 at Cornell Univ., Institute Defense Analyses, Princeton (1960), 313-320.

[Kre68] G. Kreisel, Survey of Proof Theory, *The Journal of Symbolic logic*, Vol. 33, No 3 (Sept., 1968), pp. 321-388.

[Kri89a] I. Kriz, Proving a witness lemma in better-quasiordering theory: the method of extensions, *Mathematical Proceedings of the Cambridge Philosophical Society* 106 (1989), 253-262.

[Kri89b] I. Kriz, Well quasiordering finite trees with gap condition, *Annals of Mathematics* 130 (1989), 215-226.

[Kri95] I. Kriz, The structure of infinite Friedman trees, *Advance in Mathematics*, 115 (1995), 141-199.

[Kr60] J.B. Kruskal, Well-quasi-ordering, the tree theorem, and Vazsonyi's conjecture, *Transactions of the American Mathematical Society*, vol. 95 (1960), pp. 210-225.

[KM87] A. Kanamori and K. McAlloon, On Gödel Incompleteness and Finite Combinatorics, *Annals of Pure and Applied Logic* 33 (1987), 23-41.

[KP82] L. Kirby and J. Paris, Accessible independence results for Peano arithmetic, *Bulletin of the London Mathematical Society*, 14, 1982, pp. 285-293.

[KW10] P. Koellner, W.H. Woodin, Large Cardinals from Determinacy, in: *Handbook of Set Theory*, eds. M. Foreman, A. Kanamori, M. Magidor, 2010.

[La71] R. Laver, On Fraïssé's order type conjecture, *Annals of Mathematics* 93 (1971), 89-111.

[La92] R. Laver, The left distributive law and the freeness of an algebra of elementary embeddings, *Adv. Math.* 91 (1992), 209-231.

[Lar04] P. Larson, The Stationary Tower, University Lecture Series, vol. 32, AMS, Providence, RI, 2004.

- [Lz95] R. Laver, On the algebra of elementary embeddings of a rank into itself, *Adv. Math.* 110 (1995), 334-346.
- [LL66] H. Lauchli and J. Leonard, On the elementary theory of linear orderings, *Fundamenta Mathematicae*, vol. 59 (1966), pp. 109-116.
- [LM87] M. Loeb and J. Matoušek, On undecidability of the weakened Kruskal theorem. *Logic and combinatorics (Arcata, Calif., 1985)*, 275-280, *Contemp. Math.*, 65, Amer. Math. Soc., Providence, RI, 1987.
- [LN92] M. Loeb, J. Nesetril, An unprovable Ramsey-type theorem,. *Proceedings of the AMS*, Vol. 116, Issue 3, 819-824, 1992.
- [Ma96] Dave Marker, Model Theory and Exponentiation, *Notices of the AMS*, July 1996, volume 43, number 7, 753-759.
- [Ma02] Dave Marker, *Model Theory: An Introduction*, Graduate Texts in Mathematics, Springer, 342 p, 2002.
- [Mac11] A. Macintyre, The Impact of Gödel's Incompleteness Theorems on Mathematics. In: *Horizons of Truth*, Cambridge University Press, 2011.
- [Mah11] P. Mahlo, Über lineare transfinite Mengen. BKSG 63 (1911), 187-225.
- [Mah12] P. Mahlo, Zur Theorie und Anwendung der ρ_0 -Zahlen. BKSG 64 (1912), 108-112.
- [Mah13] Zur Theorie und Anwendung der ρ_0 -Zahlen II. BKSG 65 (1913), 268-282.
- [Mar96], A. Marcone, On the logical strength of Nash-Williams' theorem on transfinite sequences, in: *Logic: From Foundations to Applications*, Keele 1993, ed. W. Hodges, M. Hyland, C. Steinhorn, J. Truss, Oxford Science Publications, Oxford University Press, 1996, pp. 327-351.
- [Mart69] D. Martin, Measurable cardinals and analytic games, *Fund. Math.* 66 (1969/1970), 287-291.
- [Mart74] D.A. Martin, Σ^0_4 -determinacy, circulated handwritten notes dated March 20, 1974.

- [Mart75] D.A. Martin, Borel Determinacy, *Annals of Mathematics*, 102, 1975, 363–371.
- [Mat70] Y. Matiyasevich, (1970). "Диофантовость перечислимых множеств [Enumerable sets are Diophantine]" (in Russian). *Doklady Akademii Nauk SSSR* 191: 279–282. English translation in *Soviet Mathematics* 11 (2), pp. 354–357.
- [Mat93] Y. Matiyasevich, *Hilbert's Tenth Problem, Foundations of Computing Series*, MIT Press, 264 + i-vii, 1993.
- [Math01] A. Matthias, *Journal of Symbolic Logic* 66 (2001) 487–496.
- [Mc10] C. McLarty, What Does It Take to Prove Fermat's Last Theorem? Grothendieck and the Logic of Number Theory. *Bulletin of Symbolic Logic* 16 (3), 2010, 359–377.
- [Mi94] C. Miller, Exponentiation is hard to avoid, *Proc. Amer. Math. Soc.* 122 (1994), 257–259.
- [Min73] G. Mints, Quantifier-free and one-quantifier systems, *Journal of Mathematical Sciences*, Volume 1, Number 1, January, 1973, 71–84.
- [Mo06] A. Montalban, Indecomposable linear orderings and hyperarithmetic analysis, *J. Math. Log.*, vol. 6 (2006), no. 1, pp. 89–120.
- [Mo∞] A. Montalban, On the Π^1_1 separation principle, *Mathematical Logic Quarterly*, to appear.
- [MR10] B. Mazur, and K. Rubin, Ranks of twists of elliptic curves and Hilbert's Tenth Problem, *Inventiones Mathematicae*, 2010.
- [MS∞] A. Montalban and R. Shore, The limits of determinacy in second order arithmetic, to appear.
- [MSt89] D. Martin and J. Steel, A proof of Projective Determinacy, *JAMS* 85 (1988), 6582–6586, 1989.
- [MT07] M.O. MedSalem, and K. Tanaka, Δ^0_3 -determinacy, comprehension and induction, *Journal of Symbolic Logic* 72, 452–462.

[MT08] M.O. MedSalem and K. Tanaka, Weak determinacy and iterations of inductive definitions, in Computational Prospects of Infinity, Part II: Presented Talks, C. Chong, Q. Feng, T. Slaman, H. Woodin, and Y. Yang, Y. eds., LNS, Institute for Mathematical Sciences, National University of Singapore, World Scientific, Singapore, 333-353.

[MW96] A. Macintyre and A. Wilkie. On the decidability of the real exponential field. In P. Odifreddi, editor, Kreiseliana - About and Around Georg Kreisel, pages 441--467. A K Peters, 1996.

[Na59] M. Nagata, On the 14th problem of Hilbert, Am. J. Math., 81 (1959), p. 766.

[Ne95] I. Neeman, Optimal proofs of determinacy, Bulletin of Symbolic Logic, Vol. 1, No. 3 (Sep., 1995), pp. 327-339.

[Ne09] I. Neeman, The strength of Jullien's indecomposability theorem, J. of Mathematical Logic, vol. 8 (2008, published June 2009), pp. 93-119.

[Ne∞1] I. Neeman, Determinacy in $L(\mathfrak{M})$, to appear in Handbook of Set Theory, M. Foreman and A. Kanamori (Editors).

[Ne∞2] I. Neeman, Necessary use of Σ^1_1 induction in a reversal, to appear.

[NMT07] T. Nemoto, M.O. MedSalem, and K. Tanaka, Infinite games in the Cantor space and subsystems of second order arithmetic, Mathematical Logic Quarterly 53, 226-236.

[NW63] C.St.J.A. Nash-Williams, On well-quasi-ordering finite trees, Proceedings of the Cambridge Philosophical Society, vol. 59 (1963), pp. 833-835.

[NW65] C.St.J.A. Nash-Williams, On well-quasi-ordering infinite trees, Proceedings of the Cambridge Philosophical Society, vol. 61 (1965), pp. 697-720.

[NW68] C.St.J.A. Nash-Williams, On better-quasi-ordering transfinite sequences, Proc. Cambridge Philosophical Society, vol. 64 (1968), 273-290.

[Pa70] C. Parsons, On a number-theoretic choice schema and

its relation to induction, in: *Intuitionism and Proof Theory: Proceedings of the Summer Conference at Bu®alo N.Y. 1968*, A. Kino, J. Myhill, and R. E. Vesley, eds., North-Holland, Amsterdam, pp. 459-473.

[Po06] H. Poincaré, Les mathématiques et la logique, *Revue de métaphysique et de morale* 14, 294-317, 1906. Reprinted in Heinzmann (1986), 11-53.

[Pr29] M. Presburger, Über die Vollständigkeit eines gewissen Systems der Arithmetik ganzer Zahlen, in welchem die Addition als einzige Operation hervortritt, *Comptes rendus du I", Congrès des Mathématiciens des pays Slaves*, Marszawa, pp. 92-101.

[PH77] J. Paris and L. Harrington, A mathematical incompleteness in Peano arithmetic, in; *Handbook of Mathematical Logic*, ed. J. Barwise, North-Holland, 1977, pp. 1133-1142.

[PS86] A. Pillay and C. Steinhorn, Definable sets in ordered structures I, *Trans. Amer. Math. Soc.* 295 (1986), 565-592.

[Ra30] R.P. Ramsey, On a problem of formal logic, *Proc. London Math. Soc.* 30, 1930, pp. 264-286.

[Rab68] M. Rabin, Decidability of second order theories and automata on infinite trees, *Tans. Am. Math. Soc.*, 141, 1-35.

[Rab77] M. Rabin, Decidable theories, *Handbook fo Mathematical Logic*, ed. Jon Barwise, 1977, Elsevier, p. 595 - 829.

[Ri46] M. Richardson, On weakly ordered systems, *Bull. Amer. Math. Soc.*, 52 (1946).

[Ri53] M. Richardson, Solutions of Irreflexive Relations, *The Annals of Mathematics*, Second Series, Vol. 58, No. 3 (Nov., 1953), pp. 573-390.

[Ro52] R.M. Robinson, An essentially undecidable axiom system, *Proceedings of the 1950 International Congress of Mathematicians*, Cambridge MA, 1952, pp. 729-730.

[Rob55] A. Robinson, On ordered fields and definite forms. *Math. Ann.* 130 (1955), 257-271.

- [Rob56] A. Robinson, Further remarks on ordered fields and definite forms. *Math. Ann.* 130 (1956), 405–409.
- [Robs78a] J.C. Robson, Polynomials satisfied by matrices, *Journal of Algebra*, vol. 55 (1978), pp. 509–520.
- [Robs78b] J.C. Robson, Well quasi-ordered sets and ideals in free semigroups and algebras, *Journal of Algebra*, vol. 55 (1978), pp. 521–535.
- [Ros84] H.E. Rose, Subrecursion: Functions and hierarchies, *Oxford Logic Guides* 9, 1984.
- [Ross36] J.B. Rosser, Extensions of some theorems of Gödel and Church, *Journal of Symbolic Logic*, vol. 1, 1936, pp. 87–91.
- [Ru08,67] B. Russell, Mathematical logic as based on the theory of types, *Amer. J. of Mathematics* 30, 222–262, 1908. Reprinted in van Heijenoort (1967), 150–182.
- [RS04] N. Robertson and P. Seymour, Graph Minors. XX. Wagner's conjecture, *Journal of Combinatorial Theory, Series B* 92 (2): 325–357, 2004.
- [RW93] M. Rathjen and A. Weiermann, Proof-theoretic investigations on Kruskal's theorem, *Ann. Pure Appl. Logic* 60 (1993) 49–88.
- [Sc74] J. Schmerl, A partition property characterizing cardinals hyperinaccessible of finite type, *Transactions of the American Mathematical Society*, 188 (1974), 281–291.
- [Sch65] K. Schütte, Predicative well-orderings, in: Formal systems and recursive functions, ed. Crossley and Dummett, North-Holland, 1965, pp. 176–184.
- [Sch77] K. Schütte, Proof Theory, A Series of Comprehensive Studies in Mathematics, 225, Springer Verlag, 1977.
- [Se80] A. Semenov, On certain extensions of the arithmetic of addition of natural numbers, *Math USSR Izv.*, 1980, 15 (2), 401–418.
- [Se83] A. Semenov, Logical theories of one place functions on the set of natural numbers (in russian), *Izv. Acad. Nauka. SSSR ser. mat.* 47 pp. 623–658, English translation

in Mat. USSR-Izv. 22, 1984, pp.587-61.

[Sh95] S. Shelah, Cardinal Arithmetic, Oxford University Press, 1995.

[Sho93] R. Shore, On the strength of Fraïssé's conjecture, in: Logical Methods, ed. J.N. Crossley, J.B. Remmel, R.A. Shore, M.E. Sweedler, Birkhäuser, 782-813

[Si82] S. Simpson, Σ^1_1 and Π^1_1 transfinite induction, Logic Colloquium '80 (Prague, 1980), Stud. Logic Foundations Math., vol. 108, North-Holland, Amsterdam, 1982, pp. 239-253.

[Si85] S. Simpson, Nonprovability of certain combinatorial properties of finite trees, Harvey Friedman's research on the foundations of mathematics (L. Harrington, M. Morley, A. Scedrov, and S. Simpson, editors), Studies in Logic and the Foundations of Mathematics, vol. 117, North-Holland, 1985, pp. 87-117.

[Si85a] S. Simpson, BQO theory and Fraïssé's conjecture, in: R. Mansfield, G. Weitkamp, Recursive Aspects of Descriptive Set Theory, Oxford Logic Guides, Oxford University Press, 1985.

[Si88] S. Simpson, Ordinal numbers and the Hilbert basis theorem, Journal of Symbolic Logic, 53 (1988), 961-974.

[Si99,09] S. Simpson, Subsystems of Second Order Arithmetic, Springer Verlag, 1999. Second edition, ASL, 2009.

[Si02] S. Simpson, Predicativity: The outer limits, in: Reflections on the Foundations of Mathematics: Essays in honor of Solomon Feferman, ed. Sieg, Sommer, Talcott, Lecture Notes in Logic, volume 15, 130-136, 2002, ASL.

[Sie91] W. Sieg, Herbrand analyses. Archive for Mathematical Logic 30(5-6), 1991, 409-441.

[Sm00] S. Smale, "Mathematical problems for the next century". Mathematics: frontiers and perspectives (Providence, RI: American Mathematics Society): 271-294, 2000.

[Smo84] C. Smorynski, Nonstandard models and related developments, p. 179-229, in: Harvey Friedman's Research on

the Foundations of Mathematics, ed. L. Harrington, M.D. Morley, A. Scedrov, S.G. Simpson, Studies in Logic and The Foundations of Mathematics, volume 117, North-Holland, 1985.

[So71] R. Solovay, Real-valued measurable cardinals, in: Axiomatic Set Theory, Proceedings of Symposia in Pure Mathematics, Volume XIII, Part 1, 1971, 397-428.

[Soc92] G. Socias, Length of polynomial ascending chains and primitive recursiveness, Math. Scand. 71 (1992), 181-205.

[St76] J. Steel, Determinateness and Subsystems of Analysis, Ph.D. thesis, University of California at Berkeley, 1976.

[St09] J. Steel, The derived model theorem, in: Logic Colloquium '06, ASL, p. 135-183, 2009.

[Sta85] L. Stanley, Borel diagonalization and abstract set theory, in: [HMSS85], 11-86.

[SS85] K. Schütte and S. Simpson, Eine in der reinen Zahlentheorie unbeweisbarer Satz über endliche Folgen von natürlichen Zahlen, Archiv für Mathematische Logik und Grundlagenforschung, vol. 25 (1985), pp. 75-89.

[Ta51] A. Tarski, A Decision Method for Elementary Algebra and Geometry. Univ. of California Press, 1951.

[Tai61] W.W. Tait, Nested Recursion, Math. Ann., 143, 1961, 236-250.

[Tak75] G. Takeuti, Proof Theory, Studies in Logic and the Foundations of Mathematics, volume 81, North-Holland, 1975.

[Tak90] Some relations among systems for bounded arithmetic, in: *Mathematical Logic, Proceedings of the Heyting 1988 Summer School*, P. P. Petkov, ed., Plenum Press, New York, pp. 139{154.

[Tan89] K. Tanaka, The Galvin-Prikry theorem and set existence axioms, Annals of Pure and Applied Logic, 42:81-104, 1989.

[Tan90] K. Tanaka, Weak axioms of determinacy and subsystems of analysis I: Δ_2^0 games, Zeitschr. f.

math. Logik und Grundlagen d. Math. 36, 1990, 481-491.

[Tan91] K. Tanaka, Weak axioms of determinacy and subsystems of analysis II (Σ^0_2 games), Annals of Pure and Applied Logic 52, 1991, 181-193.

[Th ∞] S. Thomas, The Friedman embedding theorem, to appear.

[To87] S. Todorcevic, Partitioning pairs of countable ordinals, Acta Mathematica, vol. 159 (1987), pp. 261-294.

[TG99] A. Tarski and S. Givant, Tarski's System of Geometry, The Bulletin of Symbolic Logic, Vol. 5, No. 2 (Jun., 1999), pp. 175-214.

[TMR53] Alfred Tarski, A. Mostowski, and R.M. Robinson, 1953. Undecidable Theories. North Holland.

[Vi90] A. Visser, Interpretability logic, in: Mathematical Logic, Proceedings of the 1988 Heyting Conference, p. 307-359, 1990 Plenum Press.

[Vi92] A. Visser, An Inside View of Exp; or, The Closed Fragment of the Provability Logic of $I\Delta_0 + \Omega_1$ with a Propositional Constant for Exp, J. Symbolic Logic, Volume 57, Issue 1 (1992), 131-165.

[Vi09] A. Visser, Can we make the Second Incompleteness Theorem coordinate free?, Journal of Logic and Computation, 2009.

[VH67] J. van Heijenoort, From Frege to Gödel. A Source Book in Mathematical Logic 1879-1931, Harvard Univ. Press (Cambridge), 1967.

[VM44] J. Von Neumann and O. Morgenstern, Theory of Games and Economic Behavior, Princeton University Press, Princeton, (1944).

[VV05] F. van Vugt, Independence of Variations to Kruskal's Theorem in ACA_0 , 2005,
<http://florisvanvugt.free.fr/thesis.pdf>

[We03] A. Weiermann, An application of graphical enumeration to PA. J. Symbolic Logic 68 (2003), no. 1, 5-16.

[We04] A. Weiermann, A classification of rapidly growing

Ramsey functions. Proc. Amer. Math. Soc. 132 (2004), no. 2, 553--561.

[We09] A. Weiermann, Phase transitions for Gödel incompleteness. Ann. Pure Appl. Logic 157(2009), no. 2-3, 281-296.

[Wel09] P. Welch, Weak systems of determinacy and arithmetical quasi-inductive definitions, 2009, preprints.

[Wei32] R. Weitzenbock, Über die Invarianten von Linearen Gruppen, Acta. Math., 58 (1932), 230-250.

[Wey18,87] H. Weyl, The Continuum. A critical Examination of the Foundations of Analysis. English translation of Weyl 1918 in German), by S. Pollard and T. Bole (Thomas Jefferson Press, University Press of America, Latham, distributors).

[Wi77] A.J. Wilkie, Some results and problems on weak systems of arithmetic. Logic Colloquium '77 (Proc. Conf., Wroclaw, 1977), pp. 285--296.

[Wi96] A.J. Wilkie, Some model completeness results for expansions of the ordered field of reals by Pfaffian functions and exponentiation, J. Amer. Math. Soc. 9 (1996), 1051-1094.

[Wi99] A.J. Wilkie, A theorem of the complement and some new o-minimal structures, Sel. Math. 5 (1999), pp.397-421.

[Wil09] R. Wilson, Four Colors Suffice: How the Map Problem Was Solved, Princeton University Press 2004.

[Wo88] H. Woodin, Supercompact cardinals, sets of reals, and weakly homogeneous trees, PNAS, vol. 85 (1988), no. 18, pp. 6587-6591.

[WGB10] M. Walicki, C. Grabmayer, M. Bezem, Expressive Power of Digraph Solvability, Logic Group Preprint Series, Utrecht, no. 286, October, 2010.

[Ze08,67] E. Zermelo, Investigations in the foundations of set theory, in: [VH67].

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