

Applicative Theories and Explicit Mathematics

Reinhard Kahle, DI, Universidade Nova de Lisboa

References

- [1] Michael J. Beeson. *Foundations of Constructive Mathematics: Metamathematical Studies*. Springer, Berlin, 1985.
- [2] Andrea Cantini. *Logical Frameworks for Truth and Abstraction*. North Holland, 1996.
- [3] Solomon Feferman. A language and axioms for explicit mathematics. In J.N. Crossley, editor, *Algebra and Logic*, volume 450 of *Lecture Notes in Mathematics*, pages 87–139. Springer, Berlin, 1975.
- [4] Solomon Feferman. Constructive theories of functions and classes. In M. Boffa, D. van Dalen, and K. McAloon, editors, *Logic Colloquium '78*, pages 159–224. North Holland, Amsterdam, 1979.
- [5] Solomon Feferman and Gerhard Jäger. Systems of explicit mathematics with non-constructive μ -operator. Part I. *Annals of Pure and Applied Logic*, 65(3):243–263, 1993.
- [6] Solomon Feferman and Gerhard Jäger. Systems of explicit mathematics with non-constructive μ -operator. Part II. *Annals of Pure and Applied Logic*, 79:37–52, 1996.
- [7] Thomas Glaß. Understanding uniformity in Feferman’s explicit mathematics. *Annals of Pure and Applied Logic*, 75(1–2):89–106, 1995.
- [8] Thomas Glaß and Thomas Strahm. Systems of explicit mathematics with non-constructive μ -operator and join. *Annals of Pure and Applied Logic*, 82(2):193–219, 1996.
- [9] Susumu Hayashi and Satoshi Kobayashi. A new formulation of Feferman’s system of functions and classes and its relation to Frege structures. *International Journal of Foundations of Computer Science*, 6(3):187–202, 1995.
- [10] Gerhard Jäger. Induction in the elementary theory of types and names. In E. Börger et al., editor, *Computer Science Logic '87*, volume 329 of *Lecture Notes in Computer Science*, pages 118–128. Springer, Berlin, 1988.
- [11] Gerhard Jäger. Type theory and explicit mathematics. In H.-D. Ebbinghaus, J. Fernandez-Prida, M. Garrido, M. Lascar, and M. Rodriguez Artalejo, editors, *Logic Colloquium '87*, pages 117–135. North Holland, Amsterdam, 1989.
- [12] Gerhard Jäger. Metapredicative and explicit Mahlo: a proof-theoretic perspective. In *Logic Colloquium 2000*, Lecture Note in Logic. A K Peters, 200x. To appear.
- [13] Gerhard Jäger, Reinhard Kahle, and Thomas Strahm. On applicative theories. In A. Cantini, E. Casari, and P. Minari, editors, *Logic and Foundation of Mathematics*, pages 88–92. Kluwer, 1999.
- [14] Gerhard Jäger, Reinhard Kahle, and Thomas Studer. Universes in explicit mathematics. *Annals of Pure and Applied Logic*, 109(3):141–162, 2001.

- [15] Gerhard Jäger and Thomas Strahm. Totality in applicative theories. *Annals of Pure and Applied Logic*, 74(2):105–120, 1995.
- [16] Gerhard Jäger and Thomas Strahm. Upper bounds for metapredicative Mahlo in explicit mathematics and admissible set theory. *Journal of Symbolic Logic*, 66(2):935–958, 2001.
- [17] Gerhard Jäger and Thomas Studer. Extending the system T_0 of explicit mathematics: the limit and Mahlo axioms. *Annals of Pure and Applied Logic*, 114, 2002.
- [18] Reinhard Kahle. Uniform limit in explicit mathematics with universes. Technical Report IAM 97-002, Institut für Informatik und angewandte Mathematik, Universität Bern, 1997.
- [19] Reinhard Kahle. Frege structures for partial applicative theories. *Journal of Logic and Computation*, 9(5):683–700, October 1999.
- [20] Reinhard Kahle. N-strictness in applicative theories. *Archive for Mathematical Logic*, 39(2):125–144, 2000.
- [21] Reinhard Kahle. Truth in applicative theories. *Studia Logica*, 68(1):103–128, 2001.
- [22] Reinhard Kahle and Thomas Studer. A theory of explicit mathematics equivalent to ID_1 . In P. Clote and H. Schwichtenberg, editors, *CSL 2000*, volume 1862 of *Lecture Notes in Computer Science*, pages 356–370. Springer, 2000.
- [23] Reinhard Kahle and Thomas Studer. Formalizing non-termination of recursive programs. *The Journal of Logic and Algebraic Programming*, 49(1–2):1–14, 2001.
- [24] Markus Marzetta. Universes in the theory of types and names. In E. Börger et al., editor, *Computer Science Logic '92*, volume 702 of *Lecture Notes in Computer Science*, pages 340–351. Springer, Berlin, 1993.
- [25] Markus Marzetta and Thomas Strahm. The μ quantification operator in explicit mathematics with universes and iterated fixed point theories with ordinals. *Archive for Mathematical Logic*, 37:391–413, 1998.
- [26] Andreas Schlüter. A theory of rules for enumerated classes of functions. *Archive for Mathematical Logic*, 34:47 – 63, 1995.
- [27] Thomas Strahm. Partial applicative theories and explicit substitutions. *Journal of Logic and Computation*, 6(1):55–77, 1996.
- [28] Thomas Strahm. First steps into metapredicativity in explicit mathematics. In S. Cooper and J. Truss, editors, *Sets and Proofs*, volume 258 of *London Mathematical Society Lecture Note Series*, pages 383–402. Cambridge University Press, 1999.
- [29] Thomas Strahm. The non-constructive μ -operator, fixed point theories with ordinals, and the bar rule. *Annals of Pure and Applied Logic*, 104(1–3):305–324, July 2000.