

Research Papers by Gary Hosler Meisters

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Papers are Listed in Approximate Chronological Order

In addition to offprints, preprints of all papers written after 1991 are available in $\text{T}_\text{E}\text{X}$ or $\text{L}^{\text{A}}\text{T}_\text{E}\text{X}$.

- [1] G. H. Meisters. On the almost periodicity of the integral of an almost periodic function. *Notices of the American Mathematical Society*, **5**:683, (1958).
- [2] G. H. Meisters. On almost periodic solutions of a class of differential equations. *Proceedings of the American Mathematical Society*, **10**(1):113–119, February (1959). **MR 21#2782** (W. R. Utz).
- [3] G. H. Meisters. On the equation $ax - xb = c$ in division rings. *Proceedings of the American Mathematical Society*, **12**(3):428–432, June (1961). **MR 23#A1669** (B. Harris).
- [4] G. H. Meisters. Local linear dependence and the vanishing of the Wronskian. *American Mathematical Monthly*, **68**(9):847–856, November (1961). **MR 24#A788**.
- [5] G. H. Meisters and Czesław Olech. Locally one-to-one mappings and a classical theorem on schlicht functions. *Duke Mathematical Journal*, **30**(1):63–80, March (1963). Results in this paper are used in Knut Sydsaeter, *Topics in Mathematical Analysis for Economists*, Academic Press 1981. Also see Kestelman, MONTHLY 1971. **MR 26#1471** (P. T. Church).
- [6] G. H. Meisters. Quotients of almost periodic functions. *Bulletin de l'académie Polonaise des sciences, série des sciences math., astr. et phys.*, **13**(9):621–624, (1965). Generalizes a theorem of Harald Bohr. **MR 32#8040** (W. A. Veech).
- [7] J. Bebernes, W. Fulks, and G. H. Meisters. Differentiable Paths and the Continuation of Solutions of Differential Equations. *Journal of Differential Equations*, **2**(1):102–106, January (1966). **MR 32#1394** (S. P. Diliberto).
- [8] J. Bebernes and G. H. Meisters. Differential Inequalities with Countable Exceptional Sets. *Journal of Differential Equations*, **2**(4):391–398, October (1966). **MR 34#6006** (R. Redheffer).
- [9] J. Bebernes and G. H. Meisters. An Elementary Proof of Some Differential Inequalities. *Journal of Mathematical Analysis and Applications*, **17**(1):92–98, January (1967). **MR 34#2797** (Donald C. Benson).
- [10] G. H. Meisters. Nonarchimedean Integers. *American Mathematical Monthly*, **74**(4):434–436, April (1967). I have written a much longer (unpublished) paper which tells much more of this story and connects it with Abraham Robinson's Nonstandard Integers. **MR 35#5430** (S. Crampe-Priess).
- [11] G. H. Meisters and Stanisław Ulam. On Visual Hulls of Sets. *Proceedings of the National Academy of Sciences*, **57**(5):1172–1174, May (1967). **MR 35#4707** (R. C. James).

- [12] G. H. Meisters. Ordered Regular Rings. *Tamkang Journal of Mathematics, Tamkang College of Arts and Sciences, Tamsui, Taipei, Taiwan, Rep. of China*, **2**(2):111–115, November (1971). **MR 46** 3400 (R. A. Melter).
- [13] G. H. Meisters. Translation-Invariant Linear Forms and a Formula for the Dirac Measure. *Bulletin of the American Mathematical Society*, **77**(1):120–122, January (1971). Communicated by Peter Lax. **MR 42**#2299 (A. C. Zaanen).
- [14] G. H. Meisters. Translation-Invariant Linear Forms and a Formula for the Dirac Measure. *Journal of Functional Analysis*, **8**(1):173–188, August (1971). Communicated by Peter Lax. The results are sketched as the one-page outlined-problem #30, pages 207–208, called *Meisters' Theorem*, in § 18 of Chapter XXII of Vol. VI of Jean Dieudonné's 1978 *Treatise on Analysis*. This paper was the first of a series of results by the author, now called *automatic continuity of translation-invariant linear forms*. It inspired many others, including L. Asam, J. Bourgain, A. Connes, B. E. Johnson, C. J. Lester, P. Ludvik, R. Nilsen, J. Rosenblatt, S. Saeki, A. C. Serold, Y. Takahashi, G. A. Willis, and G. Woodward, to enter this area with theorems of their own: See Nilsen's book *Difference Spaces and Invariant Linear Forms*, **Lecture Notes in Mathematics 1586**, Springer-Verlag 1994. **MR 44**#5772 (P. Schapira).
- [15] A. M. Fink and G. H. Meisters. On Δ - m Sets, Almost Periodic Functions, and Group Topologies. *Rocky Mountain Journal of Mathematics*, **2**(2):225–233, Spring (1972). Begun in Lincoln in 1962; completed at Boulder in 1970. **MR 44**#7222 (E. Følner).
- [16] G. H. Meisters. El teorema del punto fijo de zermelo en los conjuntos parcialmente ordenados y los principios trasfinitos de existencia [On Zermelo's Fixed Point Theorem (for partially ordered sets) and the Transfinite Existence Principles: Zorn's Lemma and the Axiom of Choice]. *Bogota Boletín de Matemáticas*, **6**:1–9, (1972). An exposition for graduate students; translated into Spanish by Victor Albis. **MR 51** 171 (N. C. A. da Costa).
- [17] G. H. Meisters and Wolfgang M. Schmidt. Translation-Invariant Linear Forms on $L^2(G)$ for compact abelian groups. *Journal of Functional Analysis*, **11**(4):407–424, December (1972). Influenced others: See Nilsen's book *Difference Spaces and Invariant Linear Forms*, **Lecture Notes in Mathematics 1586**, Springer-Verlag 1994. **MR 49** 11142 (C. Chou).
- [18] G. H. Meisters and J. D. Monk. Construction of the Reals via Ultrapowers. *Rocky Mountain Journal of Mathematics*, **3**(1):141–158, Winter (1973). **MR 50** 292 (N. Sankaran).
- [19] G. H. Meisters. Some Discontinuous Translation-Invariant Linear Forms. *Journal of Functional Analysis*, **12**(2):199–210, February (1973). **MR 49** 11143 (C. Chou).
- [20] G. H. Meisters. Guichard theorems on connected monothetic groups. *Studia Mathematica*, **43**:161–163, (1973). **MR 49** 1004 (John F. Price).
- [21] G. H. Meisters. Polygons Have Ears. *American Mathematical Monthly*, **82**(6):648–651, June-July (1975). Triangulation of Jordan polygons is a clear, algorithmic, consequence of the *Two Ears Theorem*. **MR 51** 4034 (H. S. M. Coxeter).
- [22] G. H. Meisters. Almost Periodic Dini Theorems. *Rocky Mountain Journal of Mathematics*, **5**(3):419–426, Summer (1975). **MR 52** 1159 (I. Namioka).
- [23] G. H. Meisters. Periodic Distributions and Non-Liouville Numbers. *Journal of Functional Analysis*, **26**(1):68–88, September (1977). **MR 56** 6378 (A. C. Zaanen).
- [24] Edith Kregelius Peterson and G. H. Meisters. Non-Liouville Numbers and a Theorem of Hörmander. *Journal of Functional Analysis*, **29**(2):142–150, August (1978). **MR 80m**:46034 (C. Chou).
- [25] G. H. Meisters. Principal Verticies, Exposed Points, and Ears. *American Mathematical Monthly*, **87**(4):284–285, April (1980). **MR 81m**:51025 (J. F. Rigby, Cardiff).
- [26] G. H. Meisters. Jacobian problems in differential equations and algebraic geometry. *Rocky Mountain Journal of Mathematics*, **12**(4):679–705, Fall (1982). My first paper on polynomial maps and polynomial flows. **MR 84c**:58048 (Carmen Chicone).

- [27] G. H. Meisters. Tooth Tables. *Mathematics Magazine*, **55**(5):274–280, November (1982). Completely elementary 3D vector algebra (dot and cross products) solves a “real-world” geometric problem in prosthetic dentistry posed to me by two UNL dental instructors, Linda Dubois and Stanley Kull.
- [28] G. H. Meisters. Some Problems and Results on Translation-Invariant Linear Forms. A one-hour invited address. In Bachar, Bade, Curtis Jr., Dales, and Thomas, editors, **Radical Banach Algebras and Automatic Continuity; Proceedings, CSU-Long Beach, July 1981**, pages 423–444. Springer-Verlag Lecture Notes in Mathematics **975**, Berlin • Heidelberg • New York, 1983. **MR 85c:46035** (Peter Dierolf, Trier).
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- [30] Hyman Bass and G. H. Meisters. Polynomial Flows in the Plane. *Advances in Mathematics*, **55**(2):173–208, February (1985). **MR 86c:58127** (Horst Knorrer, Zurich).
- [31] G. H. Meisters. Global Classification of Polynomial Flows and Their Vector Fields. In W. Allegretto and G. J. Butler, editors, **Qualitative Properties of Differential Equations; Proceedings of the International Edmonton Conference, June 18–20, 1984**, pages 275–291. Mathematics Department, U. Alberta, Edmonton, Alberta, CANADA, 1986.
- [32] G. H. Meisters and Czesław Olech. Global asymptotic stability for plane polynomial flows. *Časopis pro pěstování matematiky (Praha)*, **111**:123–126, Received May 15, 1985 (1986). Dedicated to Jaroslav Kurzweil on his sixtieth birthday. **MR 87k:34085** (A. Corduneanu).
- [33] G. H. Meisters and Czesław Olech. A polyflow formulation of the Jacobian Conjecture. *Bulletin of the Polish Academy of Sciences; Mathematics*, **35**(11–12):725–731, (1987). **MR 89j:13005** (L. Andrew Campbell).
- [34] G. H. Meisters and Czesław Olech. Solution of the Global Asymptotic Stability Jacobian Conjecture for the Polynomial Case. In *Analyse mathématique et applications. Contributions en l'honneur de Jacques-Louis LIONS*, pages 373–381, Paris, 1988. Publiée avec le concours du Centre National de la Recherche Scientifique, Gauthier-Villars. **MR 90b:58135** (L. Andrew Campbell).
- [35] G. H. Meisters. Polynomial flows on \mathbf{R}^n . In Karol Krzyżewski, editor, *Dynamical Systems and Ergodic Theory*, volume **23**, pages 9–24, 25 Mokotowska ulica, Warszawa, Poland, 1989. Banach Center PAN, PWN - Polish Scientific Publishers. **MR 92b:58204** (Waldyr M. Oliva, São Paulo).
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- [39] G. H. Meisters and Czesław Olech. Strong Nilpotence Holds in Dimensions up to Five Only. *Linear and Multilinear Algebra*, **30**:231–255, (1991). **MR 92i:15009** (Kamil Rusek, Kraków).
- [40] G. H. Meisters. Inverting polynomial maps of n -space by solving differential equations. In Fink, Miller, and Kliemann, editors, *Delay and Differential Equations, Proceedings in Honor of George Seifert, Ames, Iowa, October 18–19, 1991*, pages 107–166, Singapore • Teaneck, NJ • London • Hong Kong, 1992. World Scientific Pub. Co. Pte. Ltd. Bibliography of 208 entries. ISBN 981–02–0891–X. **MR 93g:34072** (Arno van den Essen, Nijmegen).

- [41] G. H. Meisters. Power Similarity: Summary of First Results. **Conference on Polynomial Automorphisms**, at C. I. R. M. LUMINY, France, October 12–17, 1992. Organized by Arno van den Essen.
- [42] G. H. Meisters and Czesław Olech. Power-Exact, Nilpotent, Homogeneous Matrices. *Linear and Multilinear Algebra*, **35**(3–4):225–236, (1993).
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- [44] G. H. Meisters. Invariants of Cubic-Similarity. In Marco Sabatini, editor, *Recent Results on the Global Asymptotic Stability Jacobian Conjecture*, Università di Trento, I-38050 POVO (TN) ITALY, September 14–17 1993. Dipartimento di Matematica, Università di Trento, Italia. The second lecture on Tuesday, September 14, 1993.
- [45] G. H. Meisters. The Markus-Yamabe Conjecture Implies the Keller Jacobian Conjecture. In Massimo Furi, editor, *Proceedings of the International Meeting on Ordinary Differential Equations and their Applications*, at Firenze, Italy, to celebrate the 70th Birthdays of Roberto Conti and Gaetano Villari. **IMODEA**, September 20, 1993.
- [46] G. H. Meisters. A Good But Not Beautiful Matrix in 15-Dimensions. A 13.8 MB 5 page *Mathematica* Notebook after 3117 intermediate pages are closed, *Mathematica* Version 2.1 for NeXT Computers, Wolfram Research, Inc., July 1993. Available.
- [47] G. H. Meisters. Inverting a Cubic-Linear Mapping in 15-Dimensions. A 6 page *Mathematica* Notebook, *Mathematica* Version 2.1 for NeXT Computers, Wolfram Research, Inc., July 1993. This inversion is also easy by hand. Available.
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- [51] G. H. Meisters. Polyomorphisms Conjugate to Dilations. In Arno van den Essen, editor, *Automorphisms of Affine Spaces*, Proceedings of a Conference held in Curaçao (Netherlands Antilles), July 4–8, 1994, under auspices of the Caribbean Mathematical Foundation (CMF), pages 67–87, P.O. Box 17, 3300 AA Dordrecht, The Netherlands, 1995. CMF, KLUWER ACADEMIC PUBLISHERS. This paper was presented in person at the conference which was held in the Princess Beach Resort-Casino in the city of Willemstad, Curaçao. Offprints received Fall 1995.
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- [54] G. H. Meisters and Czesław Olech. Global stability, injectivity, and the Jacobian Conjecture. In Lakshmikantham, editor, **Proceedings of the First World Congress of Nonlinear Analysts**, at Tampa, Florida, August 19–26, 1992, pages 1059–1072. Walter de Gruyter • Berlin • New York, 1996.
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