

Franz-Viktor Kuhlmann: List of papers

A) Theses

- [T1] **Diplom (Masters):** *Zur Konstruktion von rationalen Stellen \wp -adischer und anderer bewerteter Funktionenkörper*, Münster (1981).
- [T2] **Dissertation (Ph.D.):** *Henselian function fields*, Heidelberg (1989), 214 pages;
I distributed 120 copies of an extended version of this thesis under the title:
- [T2a] *Henselian function fields and tame fields*, Heidelberg (1990), 254 pages.
- [T3] **Habilitation:** *Valuation theory of fields, abelian groups and modules*, Heidelberg (1994/95), approx. 450 pages.

B) Books and Proceedings

- [B1] Kuhlmann, F.-V. – Kuhlmann, S. – Marshall, M. (editors): *Valuation Theory and its Applications*, Proceedings of the International Conference and Workshop on Valuation Theory (Saskatoon 1999), The Fields Institute Communications Series **32/33**, Publications of the American Mathematical Society, *Volume I:* (2002), 449 pages, *Volume II:* (2003), 459 pages.
- [B2] Campillo, A. – Kuhlmann, F.-V. – Teissier, B. (editors): Proceedings of the Second International Conference and Workshop on Valuation Theory (Segovia/El Escorial, Spain, 2011), EMS Series of Congress Reports **10**, (214), 670 pages.
- [B3] Gładki, P. – Koprowski, P. – Kuhlmann, F.-V. Misik, L. – Śladek, A. – Szymiczek, K. (editors): Proceedings of ALANT 3 – Joint Conferences on Algebra, Logic and Number Theory, Bedlewo (Poland) 2014, Banach Center Publications **108** (2016)
- [B4] Kuhlmann, F.-V.: *Valuation theory*, in preparation, approx. 600 pages. Preliminary versions of several chapters are available on the web site: <http://math.usask.ca/~fvk/Fvkbook.htm>.

C) Refereed publications

- [1] Kuhlmann, F.-V. – Prestel, A.: *On places of algebraic function fields*, J. reine angew. Math. **353** (1984), 182–195
- [2] Kuhlmann, F.-V. – Pank, M. – Roquette, P.: *Immediate and purely wild extensions of valued fields*, Manuscripta math. **55** (1986), 39–67
- [3] Basarab, S. A. – Kuhlmann, F.-V.: *An isomorphism theorem for henselian algebraic extensions of valued fields*, Manuscripta math. **77** (1992), 113–126. Correction in: Manuscripta Math. **84** (1994), 113–114
- [4] Kuhlmann, F.-V.: *Quantifier elimination for henselian fields relative to additive and multiplicative congruences*, Israel J. Math. **85** (1994), 277–306
- [5] Kuhlmann, F.-V. – Kuhlmann, S.: *On the structure of nonarchimedean exponential fields II*, Communications in Algebra **22(12)** (1994), 5079–5103
- [6] Kuhlmann, F.-V.: *Abelian groups with contractions I*, in: Proceedings of the Oberwolfach Conference on Abelian Groups 1993, Amer. Math. Soc. Contemporary Mathematics **171** (1994), 217–241
- [7] Kuhlmann, F.-V.: *Abelian groups with contractions II: weak o-minimality*, in: Abelian Groups and Modules (Proceedings of the Padova Conference 1994, eds. A. Facchini and C. Menini), Kluwer Academic Publishers, Dordrecht (1995), 323–342
- [8] Kuhlmann, F.-V. – Kuhlmann, S. – Shelah, S.: *Exponentiation in power series fields*, Proc. Amer. Math. Soc. **125** (1997), 3177–3183
- [9] Kuhlmann, F.-V. – Kuhlmann, S.: *An Ax-Kochen-Ershov principle for valued and ordered vector spaces*, in: Ordered Algebraic Structures, Proc. of the Curacao Meeting 1995, eds. W. C. Holland and J. Martinez, Kluwer Academic Publishers (1997), 237–259
- [10] Kuhlmann, F.-V. – Kuhlmann, S.: *The exponential rank of nonarchimedean exponential fields*, in: Proceedings of the Special Semester in Real Algebraic Geometry and Ordered Structures, Baton Rouge 1996, Contemporary Mathematics **253** (2000), 181–201

- [11] Kuhlmann, F.-V.: *Valuation theoretic and model theoretic aspects of local uniformization*, Resolution of Singularities (Obergrugl, 1997), 381-456, Progr. Math. **181**, Birkhäuser, Basel 2000
- [12] Kuhlmann, F.-V. – Lombardi, H.: *Construction du hensélisé d'un corps valué*, J. Alg. **228** (2000), 624-632
- [13] Kuhlmann, F.-V.: *Elementary properties of power series fields over finite fields*, J. Symb. Logic **66** (2001), 771-791
- [14] van den Dries, L. – Kuhlmann, F.-V.: *Images of additive polynomials in $\mathbb{F}_q((t))$ have the optimal approximation property*, Can. Math. Bulletin **45** (2002), 71-79
- [15] Kuhlmann, F.-V. – Kuhlmann, S. – Marshall, M. – Zekavat, M.: *Embedding ordered fields in formal power series fields*, J. Pure Appl. Algebra **169** (2002), 71-90
- [16] Kuhlmann, F.-V. – Lombardi, H. – Perdry, H.: *Dynamic computations inside the algebraic closure of a valued field*, in: [B1] (Volume II), 133-156
- [17] Kuhlmann, F.-V. – Kuhlmann, S.: *Valuation theory of exponential Hardy fields I*, Mathematische Zeitschrift **243**, (2003), 671-688
- [18] Kuhlmann, F.-V. – Kuhlmann, S. – Shelah, S.: *Functorial equations for lexicographic products*, Proc. Amer. Math. Soc. **131** (2003), 2969-2976
- [19] Kuhlmann, F.-V.: *A correction to Epp's paper "Elimination of wild ramification"*, Inventiones Math. **153** (2004), 679-681
- [20] Kuhlmann, F.-V.: *On places of algebraic function fields in arbitrary characteristic*, Advances in Math. **188** (2004), 399-424
- [21] Kuhlmann, F.-V.: *Value groups, residue fields and bad places of rational function fields*, Trans. Amer. Math. Soc. **356** (2004), 4559-4600
- [22] Giraudet, M. – Kuhlmann, F.-V. – Leloup, G.: *Formal series with exponents in cyclically ordered groups*, Arch. Math. **84** (2005), 118-130
- [23] Knaf, H. – Kuhlmann, F.-V.: *Abhyankar places admit local uniformization in any characteristic*, Ann. Scient. Ec. Norm. Sup. **38** (2005), 833-846
- [24] Kuhlmann, F.-V.: *Additive Polynomials and Their Role in the Model Theory of Valued Fields*, Logic in Tehran, Proceedings of the Workshop and Conference on Logic, Algebra, and Arithmetic, held October 18-22, 2003. Lecture Notes in Logic **26** (2006), 160-203
- [25] Kuhlmann, F.-V.: *Dense subfields of henselian fields, and integer parts*, Logic in Tehran, Proceedings of the Workshop and Conference on Logic, Algebra, and Arithmetic, held October 18-22, 2003. Lecture Notes in Logic **26** (2006), 204-226
- [26] Knaf, H. – Kuhlmann, F.-V.: *Every place admits local uniformization in a finite extension of the function field*, Advances Math. **221** (2009), 428-453
- [27] Kuhlmann, F.-V. – Kuhlmann, S. – Lee, J.: *Valuation bases for generalized algebraic series fields*, J. Alg. **322** (2009), 1430-1453
- [28] Kuhlmann, F.-V. – Kuhlmann, S. – Fornasiero, A.: *Towers of complements to valuation rings and truncation closed embeddings of valued fields*, J. Alg. **323** (2010), 574-600
- [29] Kuhlmann, F.-V.: *Elimination of Ramification I: The Generalized Stability Theorem*, Trans. Amer. Math. Soc. **362** (2010), 5697-5727
- [30] Kuhlmann, F.-V.: *A classification of Artin Schreier defect extensions and a characterization of defectless fields*, Illinois J. Math. **54** (2010), 397-448
- [31] Kuhlmann, F.-V.: *The defect*, Commutative Algebra – Noetherian and non-Noetherian perspectives, 277-318, Springer, New York, 2011
- [32] Kuhlmann, F.-V.: *Maps on ultrametric spaces, Hensel's Lemma, and differential equations over valued fields*, Comm. in Alg. **39** (2011), 1730-1776
- [33] Kuhlmann, F.-V. – Machura, M. – Osiaik, K.: *Metrizability of spaces of \mathbb{R} -places of function fields of transcendence degree 1 over real closed fields*, Comm. in Alg. **39** (2011), 3166-3177
- [34] Kuhlmann, F.-V.: *Approximation of elements in henselizations*, Manuscripta math. **136** (2011), 461-474

- [35] Azgin, S. – Kuhlmann, F.-V. – Pop, F.: *Characterization of extremal valued fields*, Proc. Amer. Math. Soc. **140** (2012), 1535–1547
- [36] Kuhlmann, F.-V. – Kuhlmann, K.: *Embedding theorems for spaces of R -places of rational function fields and their products*, Fundamenta Math. **218** (2012), 121–149
- [37] Kuhlmann, F.-V. – Novacoski, J.: *Henselian elements*, J. Alg. **418** (2014), 44–65. With an appendix by H. Knaf
- [38] Kuhlmann, F.-V. – Vlahu, I.: *The relative approximation degree in valued function fields*, Mathematische Zeitschrift **276** (2014), 203–235
- [39] Kuhlmann, F.-V. – Naseem, A.: *Defects of algebraic function fields, completion defects and defect quotients*, in [B2] (2014), 320–349
- [40] Kuhlmann, F.-V. – Kuhlmann, K. – Shelah, S.: *Symmetrically complete ordered sets, abelian groups and fields*, Israel J. Math. **208** (2015), 261–290
- [41] Blaszczyk, A. – Kuhlmann, F.-V.: *Corrections and Notes for the Paper "Value groups, residue fields and bad places of rational function fields" (Trans. Amer. Math. Soc. 356 (2004), 4559–4600)*, Trans. Amer. Math. Soc. **367** (2015), 4505–4515
- [42] Kuhlmann, F.-V. – Kuhlmann, K.: *A common generalization of metric, ultrametric and topological fixed point theorems*, Forum Math. **27** (2015), 303–327; and: *Correction to "A common generalization of metric, ultrametric and topological fixed point theorems"*, Forum Math. **27** (2015), 329–330
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- [45] Kuhlmann, F.-V. – Pal, K.: *The model theory of separably tame fields*, J. Alg. **447** (2016), 74–108
- [46] Anscombe, S. – Kuhlmann, F.-V.: *Notes on extremal and tame valued fields*, J. Symb. Logic **81** (2016), 400–416
- [47] Kuhlmann, F.-V. – Kuhlmann, S. – Visan, C.: *Valuations on rational function fields that are invariant under permutation of the variables*, J. Alg. **464** (2016), 279–296
- [48] Blaszczyk, A. – Kuhlmann, F.-V.: *On maximal immediate extensions of valued fields*, Mathematische Nachrichten **290** (2017), 7–18
- [49] Kuhlmann, F.-V. – Kuhlmann, K.: *Fixed point theorems for spaces with a transitive relation*, Fixed Point Theory **18** (2017), 663–672
- [50] Kuhlmann, F.-V. – Kuhlmann, K. – Sonaallah, F.: *Coincidence Point Theorems for Ball Spaces and Their Applications*, to appear in: Ordered Algebraic Structures and Related Topics, CIRM, Luminy, France, October 12–16 2015, Contemporary Mathematics **697** (2017), 211–226
- [51] Kuhlmann, F.-V. – Kuhlmann, S.: *Valuation theory of exponential Hardy fields II: Principal parts of germs in the Hardy field of o -minimal exponential expansions of the reals*, in: Ordered Algebraic Structures and Related Topics, CIRM, Luminy, France, October 12–16 2015, Contemporary Mathematics **697** (2017), 227–237
- [52] Kuhlmann, F.-V. – Kuhlmann, K. – Paulsen, M.: *The Caristi-Kirk Fixed Point Theorem from the point of view of ball spaces*, J. Fixed Point Theory Appl. **20** (2018), no. 3, Art. 107 (open access)
- [53] Dobrowolski, J. – Kuhlmann, F.-V.: *Valuation theory, generalized IFS attractors and fractals*, Archiv der Mathematik **111** (2018), 287–297 (open access)
- [54] Blaszczyk, A. – Kuhlmann, F.-V.: *Counting the number of distinct distances of elements in valued field extensions*, J. Alg. **509** (2018), 192–211
- [55] Kuhlmann, F.-V.: *Elimination of Ramification II: Henselian Rationality*, Israel J. Math. () 1–32 (2019), DOI 10.1007/s11856-019-1940-0 (online)
- [56] Kubiś, W. – Kuhlmann, F.-V.: *Chain intersection closures*, Topology Appl. **262** (2019), 11–19
- [57] Kuhlmann, F.-V.: *Correction and notes to the paper "A classification of Artin-Schreier defect extensions and characterizations of defectless fields"*, Illinois J. Math. **63** (2019), 463–468

D) Submitted papers

- [58] Kuhlmann, F.-V.: *Selected methods for the classification of cuts and their applications*, <https://arxiv.org/abs/1803.07806>
- [59] Blaszczyk, A. – Cubides Kovacsics, P. – Kuhlmann, F.-V.: *On valuation independence and defectless extensions of valued fields*, <https://arxiv.org/abs/1803.09821>
- [60] Kuhlmann, F.-V.: *Subfields of algebraically maximal Kaplansky fields*, <https://arxiv.org/abs/1803.07792>
- [61] Blaszczyk, A. – Kuhlmann, F.-V.: *Deeply ramified fields, semitame fields, and the classification of defect extensions*, <https://arxiv.org/abs/1811.04396>
- [62] Bartsch, R. – Kuhlmann, F.-V. – Kuhlmann, K.: *Construction of ball spaces and the notion of continuity*, <https://arxiv.org/abs/1810.09275>
- [63] Ćmiel, H. – Kuhlmann, F.-V. – Kuhlmann, K.: *A generic approach to measuring the strength of completeness/compactness of various types of spaces and ordered structures*, <https://math.usask.ca/fvk/Balls.pdf>

E) Other publications

- [64] Kuhlmann, F.-V.: *Some valuation theoretical concepts for the examination of the model theory of valued fields*, in: Structures Algébriques Ordonnées, Séminaire 1985–1986, Paris VII (1986)
- [65] Kuhlmann, F.-V.: *Some remarks on maximality properties of valued fields*, in: Seminarbericht **86** (Proceedings of the 4th Easter Conference on Model Theory), Humboldt–Universität Berlin (1986), 137–142
- [66] Kuhlmann, F.-V.: *Maximality properties of valued fields: some new results*, in: Structures Algébriques Ordonnées, Séminaire 1986–1987, Paris VII (1987)
- [67] Kuhlmann, F.-V.: *The model theory of valued fields — a short survey*, in: Seminarbericht **93** (Proceedings of the 5th Easter Conference on Model Theory), Humboldt–Univ. Berlin (1987), 100–111
- [68] Kuhlmann, F.-V.: *Generalized Ax–Kochen–Ershov–principles*, in: Proceedings of the Eighth Easter Conference on Model Theory, Humboldt–Universität Berlin (1990), 113–120
- [69] Kuhlmann, F.-V.: 15 entries for the supplementary volume of the Encyclopaedia of Mathematics (ed. M. Hazewinkel): *Model theory of valued fields / Valued function field / p -adically closed field / Real closed field / Henselian / Henselization of a valued field / Defect, ramification deficiency / Kaplansky field / Ramification theory of valued fields / Elimination of quantifiers / Existentially closed, existentially complete / Robinson’s test / Prime model / Structure / Transfer principle*, Heidelberg (1996). Published in Volume 11 and on the CD ROM version of the Encyclopaedia.
- [70] Kuhlmann, F.-V. – Kuhlmann, S.: *Residue fields of arbitrary convex valuations on restricted analytic fields with exponentiation I*, The Fields Institute Preprint Series, Toronto, (1996), 27 pages; also in: Structures Algébriques Ordonnées, Séminaire Paris VII (1997)
- [71] Kuhlmann, F.-V. – Kuhlmann, S.: *Explicit construction of exponential-logarithmic power series*, in: Structures Algébriques Ordonnées, Séminaire Paris VII (1997), 7 pages
- [72] Kuhlmann, F.-V. – Kuhlmann, S.: *The exponential rank of nonarchimedean exponential fields*, The Fields Institute Preprint Series, Toronto (1997), 21 pages
- [73] Kuhlmann, F.-V.: *Valuation independence: a characterization of the Galois groups of tame valued field extensions*, The Fields Institute Preprint Series, Toronto (1997), 6 pages
- [74] Kuhlmann, F.-V.: *A theorem on spherically complete valued abelian groups*, The Fields Institute Preprint Series, Toronto (1997), 6 pages
- [75] Kuhlmann, F.-V.: *On local uniformization in arbitrary characteristic*, The Fields Institute Preprint Series, Toronto (1997), 30 pages; also in: Structures Algébriques Ordonnées, Séminaire Paris VII (1997)
- [76] Kuhlmann, F.-V.: *Elementary properties of power series fields over finite fields*, Structures Algébriques Ordonnées, Séminaire Paris VII (1997), 10 pages
- [77] Kuhlmann, F.-V. – Lombardi, H.: *Computations in the henselization of a valued field*, Prépublications de l’Équipe de Mathématiques de Besançon (1998)
- [78] Kuhlmann, F.-V.: *A theorem about maps on spherically complete ultrametric spaces, and its applications*, Structures Algébriques Ordonnées, Séminaire 1999–2000, Paris VII (2001), 21 pages

- [79] Kuhlmann, F.-V.: *Value groups, residue fields and bad places of rational function fields*, Structures Algébriques Ordonnées, Séminaire 2000-01, Paris 7 (2002), 26 pages
- [80] Kuhlmann, F.-V. – Kuhlmann, S. – Shelah, S.: *Functional equations for lexicographic products*, Structures Algébriques Ordonnées, Séminaire 2000-01, Paris 7 (2002), 9 pages.
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- [82] Kuhlmann, F.-V.: *Maps on ultrametric spaces, Hensel's Lemma, and differential equations over valued fields*, Newton Institute Preprint Series, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK (2005), 44 pages.
- [83] Kuhlmann, F.-V.: *Additive Polynomials and Their Role in the Model Theory of Valued Fields*, Newton Institute Preprint Series, Isaac Newton Institute, Cambridge, UK (2005), 44 pages.
- [84] Kuhlmann, F.-V.: *Elimination of ramification I: the generalized stability theorem*, Newton Institute Preprint Series, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK (2005), 40 pages.
- [85] Kuhlmann, F.-V. – Kuhlmann, S. – Lee, J.: *Valuation bases for generalized algebraic series fields*, Journées en l'honneur de Max Dickmann, Structures Algébriques Ordonnées **80**, Prépublications Paris 7 (2008), 37 pages
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- [87] Kuhlmann, F.-V.: *The algebra and model theory of tame valued fields*, Structures Algébriques Ordonnées **81**, Prépublications Paris 7 (2009), 35 pages
- [88] Kuhlmann, F.-V. – Kuhlmann, K. – Shelah, S.: *Symmetrically complete ordered sets, abelian groups and fields*, Structures Algébriques Ordonnées **89**, Prépublications Paris 7 (2014), 24 pages
- [89] Kuhlmann, F.-V.: *Selected methods for the classification of cuts, and their applications*, <https://arxiv.org/abs/1803.07806> and: Structures Algébriques Ordonnées **91**, Prépublications Paris 7 (2017), 20 pages