

Publications of K. Culik

Informatique théorique et applications, tome 28, n° 3-4 (1994), p. 425-430.

http://www.numdam.org/item?id=ITA_1994__28_3-4_425_0

© AFCET, 1994, tous droits réservés.

L'accès aux archives de la revue « Informatique théorique et applications » implique l'accord avec les conditions générales d'utilisation (<http://www.numdam.org/legal.php>). Toute utilisation commerciale ou impression systématique est constitutive d'une infraction pénale. Toute copie ou impression de ce fichier doit contenir la présente mention de copyright.

NUMDAM

*Article numérisé dans le cadre du programme
Numérisation de documents anciens mathématiques*

<http://www.numdam.org/>

PUBLICATIONS OF K. CULIK

1. K. CULIK II, Decomposition of Automata and Note on Their Analysis (in Czech), *Aplikace Matematiky*, 1963, 8, pp. 292-301.
2. K. CULIK II, Construction of the Automaton Mapping (in Russian), *Aplikace Matematiky*, 1965, 10, pp. 459-468.
3. K. CULIK II, Relation Represented by n -tape Automata (in Czech), *Kybernetika*, 1967, 3, pp. 321-345.
4. K. CULIK II, Sequential Machines with Several Input and Output Tapes, *Kybernetika*, 1967, 3, pp. 540-559.
5. J. CULIK, K. CULIK II and J. VOGEL, SIS – Programming Language for Simulation, *Information Processing Machines*, 1968, 14, pp. 119-152.
6. K. CULIK II, Languages Represented by n -tape Automata, *Information Processing Machines*, 1968, 14, pp. 83-100.
7. K. CULIK II, A Contribution to Top-down Analysis of Context-Free Languages, *Kybernetika*, 1968, 4, pp. 422-431.
8. K. CULIK II, N -ary Grammars and the Description of Mapping of Languages, *Kybernetika*, 1970, 6, pp. 99-117.
9. J. A. BRZOWSKI, K. CULIK II and A. GABRIELIAN, Classification of Non-Counting Events, *JCSS*, 1971, 5, pp. 41-53.
10. K. CULIK II and C. J. W. MOREY, Formal Schemes for Language Translations, *International J. of Comp. Math. (Section A)*, 1971, 3, pp. 17-48.
11. K. CULIK II, Abstract Families of Relations, *JCSS*, 1971, 5, pp. 596-605.
12. K. CULIK II and R. COHEN, LR-regular Grammars – An Extension of LR (k) Grammars, *JCSS*, 1973, 7, pp. 66-96.
13. K. CULIK II, A Model for the Formal Definition of Programming Languages, *International J. of Computer Math. (Section A)*, 1973, 3, pp. 315-345.
14. K. CULIK II, On Some Families of Languages Related to Development Systems, *International J. of Computer Math., (Section A)*, 1974, 4, pp. 31-42.
15. K. CULIK II and J. OPATRYNY, Literal Homomorphisms of OL-Languages, *International J. of Comp. Math., (Section A)*, 1974, 4, pp. 247-267.
16. K. CULIK II and J. OPATRYNY, Macro OL-Systems, *International J. of Comp. Math. (Section A)*, 1975, 4, pp. 327-342.
17. K. CULIK II and A. LINDENMAYER, Parallel Rewriting on Graphs and Multidimensional Development, *Int. Journal of General Systems*, 1976, 3, pp. 53-66.
18. K. CULIK II, On the Decidability of the Sequence Equivalence Problem for DOL-systems, *Theoretical Computer Science*, 1977, 3, pp. 75-84.
19. K. CULIK II and I. FRIS, The Decidability of the Equivalence Problem for DOL-systems, *Information and Control*, 1977, 35, pp. 20-39.
20. K. CULIK II and H. A. MAURER, Tree Controlled Grammars, *Computing*, 1977, 19, pp. 129-139.
21. K. CULIK II and H. A. MAURER, Linearizing Selector-graphs and Applications Thereof, *Angewandte Informatik*, 1977, 9, pp. 386-394.

22. K. CULIK II, The Decidability of v -Local Catenativity and of Other Properties of DOL Systems, *Information Processing Letters*, 1978, 7, pp. 33-35.
23. K. CULIK II and H. A. MAURER, String Representation of Graphs, *Int. J. of Comp. Math. (Section A)*, 1978, 6, pp. 273-301.
24. K. CULIK II and H. A. MAURER, Propagating Chain-free Normal Forms for EOL Systems, *Information and Control*, 1978, 36, pp. 309-319.
25. K. CULIK II, H. A. MAURER and Th. OTTMANN, On Two-symbol Complete EOL Forms, *Theoretical Computer Science*, 1978, 6, pp. 69-92.
26. K. CULIK II, H. A. MAURER, Th. OTTMANN, K. RUOHONEN and A. SALOMAA, Isomorphism, Form Equivalence and Sequence Equivalence of PDOL Forms, *Theoretical Computer Science*, 1978, 6, pp. 143-173.
27. K. CULIK II, The Ultimate Equivalence Problem for DOL Systems, *Acta Informatica*, 1978, 10, pp. 69-84.
28. K. CULIK II and D. WOOD, Speed-Varying OL-Systems, *Information Sciences*, 1978, 14, pp. 161-170.
29. K. CULIK II and A. SALOMAA, On the Decidability of Homomorphism equivalence for Languages, *JCCS*, 1978, 17, pp. 163-175.
30. K. CULIK II and D. WOOD, Double Deterministic Tabled OL Systems, *Int. J. of Computer and Inf. Sciences*, 1979, 8, pp. 335-347.
31. K. CULIK II and A. LINDENMAYER, Growing Cellular Systems: Generation of Graphs by Parallel Rewriting, *Int. J. General Systems*, 1979, 5, pp. 45-55.
32. K. CULIK II, A Purely Homomorphic Characterization of Recursively Enumerable Sets, *JACM*, 1979, 26, pp. 345-350.
33. K. CULIK II, Some Decidability Results about Regular and Push Down Translations, *Information Processing Letters*, 1979, 8, pp. 5-8.
34. K. CULIK II and J. L. RICHIER, Homomorphism Equivalence on ETOL Languages, *Int. J. of Computer Math. (Section A)*, 1979, 7, pp. 43-51.
35. K. CULIK II and D. WOOD, A Mathematical Investigation of Parallel Graph OL Systems, *Inf. and Control*, 1979, 43, pp. 50-82.
36. K. CULIK II and H. A. MAURER, On Simple Representations of Language Families, *RAIRO Informatique théorique*, 1979, 13, pp. 241-250.
37. K. CULIK II and H. A. MAURER, Secure Information Storage and Retrieval Using New Results in Cryptography, *Inf. Processing Letters*, 1979, 8, pp. 181-186.
38. K. CULIK II and J. KARHUMAKI, Interactive L-systems with Almost Interactionless Behavior, *Inf. and Control*, 1979, 43, pp. 83-100.
39. K. CULIK II and N. D. DIAMOND, A Homomorphic Characterization of Time and Space Complexity Classes of Languages, *Int. J. of Computer Math. (Section A)*, 1980, 8, pp. 207-222.
40. K. CULIK II and A. SALOMAA, Test Sets and Checking Words for Homomorphism Equivalence, *JCSS*, 1980, 20, pp. 379-395.
41. K. CULIK II and J. KARHUMAKI, On the Equality Sets for Homomorphisms on Free Monoids with Two Generators, *RAIRO Informatique théorique*, 1980, 14, pp. 349-369.
42. K. CULIK II and J. ALBERT, Test Sets for Homomorphism Equivalence on Context Free Languages, *Inf. and Control*, 1980, 45, pp. 273-284.
43. K. CULIK II, Th. OTTMANN and D. WOOD, Dense Multiway Trees, *ACM Transactions on Database Systems*, 1981, 6, pp. 486-512.
44. K. CULIK II, W. BUCHER, H. A. MAURER and D. WOTSCHKE, Concise Description of Finite Languages, *Theoretical Computer Science*, 1981, 14, pp. 227-246.

45. K. CULIK II and J. PACHL, Equivalence Problems for Mappings on Infinite Strings, *Inf. and Control*, 1981, 49, pp. 52-63.
46. K. CULIK II and D. WOOD, A Note on Recurrent Words, *Inf. and Control*, 1981, 51, pp. 88-94.
47. K. CULIK II, F. E. FICH and A. SALOMAA, A Homomorphic Characterization of Regular Languages, *Applied Discrete Mathematics*, 1982, 4, pp. 149-152.
48. K. CULIK II and A. SALOMAA, On Infinite Words Obtained by iterating Morphisms, *Theoretical Computer Science*, 1982, 19, pp. 29-38.
49. K. CULIK II and T. HARJU, Dominoes Over a Free Monoid, *Theoretical Computer Science*, 1982, 18, pp. 279-300.
50. J. ALBERT and K. CULIK II, Tree Correspondance Problems, *JCSS*, 1982, 24, pp. 167-179.
51. J. ALBERT, K. CULIK II and J. KARHUMAKI, Test Sets for Context-Free Languages and Systems of Equations over a Free Monoid, *Inf. and Control*, 1982, 52, pp. 172-186.
52. K. CULIK II and D. WOOD, A Note on Some Tree Similarity Measures, *Information Processing Letters*, 1982, 15, pp. 39-42.
53. K. CULIK II and T. HEAD, Transductions and the Parallel Generation of Language, *Inter. J. Comp. Math. (Section A)*, 1983, 13, pp. 3-15.
54. C. CHOFFRUT and K. CULIK II, Properties of Finite and Pushdown Transducers, *SIAM J. on Comp.*, 1983, 12, pp. 300-315.
55. K. CULIK II and J. KARHUMAKI, Systems of Equations over a Free Monoid and Ehrenfeucht Conjecture, *Discrete Mathematics*, 1983, 43, pp. 139-153.
56. K. CULIK II, J. GRUSKA and A. SALOMAA, On a Family of L-languages Resulting from Systolic Tree Automata, *Theoretical Computer Science*, 1983, 23, pp. 231-242.
57. K. CULIK II, J. GRUSKA and A. SALOMAA, Systolic Automata for VLSI on Balanced Trees, *Acta Informatica*, 1983, 18, pp. 335-344.
58. K. CULIK II and J. KARHUMAKI, On the Ehrenfeucht Conjecture for DOL Languages, *RAIRO, Informatique théorique*, 1983, 17, pp. 205-230.
59. C. CHOFFRUT and K. CULIK II, Folding of the Plane and the Design of Systolic Arrays, *Inform. Processing Letters*, 1983, 17, pp. 149-153.
60. K. CULIK II and A. SALOMAA, Ambiguity and Decision Problems Concerning Number Systems, *Inf. and Control*, 1983, 56, pp. 139-153.
61. K. CULIK II and H. JURGENSEN, Programmable Finite Automata for VLSI, *Int. J. Comp. Math. (Section A)*, 1983, 14, pp. 259-275.
62. W. BUCHER, K. CULIK II and H. A. MAURER, Context-free Complexity of Finite Language, *Theoretical Computer Science*, 1984, 28, pp. 277-286.
63. K. CULIK II and T. HARJU, The Omega-Sequence Equivalence Problem for DOL System is Decidable, *JACM*, 1984, 31, pp. 282-298.
64. K. CULIK II, A. SALOMAA and D. WOOD, Systolic Tree Acceptors, *RAIRO, Informatique théorique*, 1984, 18, pp. 53-69.
65. K. CULIK II, J. GRUSKA and A. SALOMAA, Systolic Trellis Automata, Part I, *Inter. J. of Computer Math. (Section A)*, 1984, 15, pp. 195-212.
66. K. CULIK II, J. GRUSKA and A. SALOMAA, Systolic Trellis Automata, Part II, *Inter. J. of Computer Math. (Section A)*, 1984, 16, pp. 3-22.
67. W. BUCHER, K. CULIK II, On Real Time and Linear Time Cellular Automata, *RAIRO, Informatique théorique*, 1984, 18, pp. 307-325.
68. C. CHOFFRUT and K. CULIK II, On Extendibility of Unavoidable Sets, *Discrete Mathematics*, 1984, 9, pp. 125-137.
69. K. CULIK II and SHENG YU, Iterative Tree Automata, *Theoretical Computer Science*, 1984, 32, pp. 227-247.

70. C. CHOFFRUT and K. CULIK II, On Real-Time Cellular Automata and Trellis Automata, *Acta Informatica*, 1984, 21, pp. 393-407.
71. K. CULIK II and I. FRIS, Topological Transformations as a Tool in The Design of Systolic Networks, *Theoretical Computer Science*, 1985, 37, pp. 183-216.
72. K. CULIK II and J. KARHUMÄKI, Synchronizable Deterministic Pushdown Automata and the Decidability of Their Equivalence, *Acta Informatica*, 1986, 23, pp. 597-605.
73. K. CULIK II, J. GRUSKA and A. SALOMAA, Systolic Trellis Automata: Stability, Decidability and Complexity, *Information and Control*, 1986, 71, pp. 218-230.
74. K. CULIK II and J. KARHUMÄKI, A Note on the Equivalence Problem of Rotational Formal Power Series, *Inform. Processing Letters*, 1986, 23, pp. 29-31.
75. K. CULIK II, O. H. IBARRA and SHENG YU, Iterative Tree Arrays with Logarithmic Depth, *Intern. J. of Computer Math. (Section A)*, 1986, 20, pp. 187-204.
76. K. CULIK II and SHENG YU, Real Time, Pseudo Real Time and Linear Time ITA, *Theoretical Computer Science*, 1986, 47, pp. 15-26.
77. K. CULIK II and J. KARHUMÄKI, The Equivalence Problem of Finite-valued Finite Transducers (on HDTOL Languages) is Decidable, *Theoretical Computer Science*, 1986, 47, pp. 71-84.
78. K. CULIK II and J. KARHUMÄKI, The Equivalence Problem for Single-Valued Two-Way Transducers is Decidable, *SIAM J. on Comput.*, 1987, 16, pp. 221-230.
79. K. CULIK II and SHENG YU, Fault-Tolerant Schemes for Some Systolic Systems, *Intern. J. on Comp. Math. (Section A)*, 1987, 22, pp. 13-42.
80. J. ALBERT and K. CULIK II, A Simple Universal Cellular Automaton and its One-Way and Totalistic Version, *J. Complex Systems*, 1987, 1, pp. 1-16.
81. K. CULIK II, H. JÜRGENSEN and K. MAK, Systolic Tree Architecture for Some Standard Functions, *Computers and Artificial Intelligence*, 1987, 6, pp. 243-261.
82. K. CULIK II and J. KARHUMÄKI, On Totalistic Systolic Networks, *Inform. Processing Letters*, 1987/88, 26, pp. 213-236.
83. K. CULIK II, On Invertible Cellular Automata, *Complex Systems*, 1987, 1, pp. 1035-1044.
84. K. CULIK II and S. YU, Undecidability of CA Classification Schemes, *Complex Systems*, 1988, 2, pp. 177-190.
85. K. CULIK II, Variations of the Firing Squad Problem and Applications, *Information Processing Letters*, 1989, 30, pp. 153-157.
86. K. CULIK II, J. PACHL and S. YU, On the Limit Sets of Cellular Automata, *SIAM J. on Computing*, 1989, 18, pp. 831-842.
87. K. CULIK II and J. KARHUMÄKI, HDTOL Matching of Computations of multitape automata, *Acta Informatica*, 1989, 27, pp. 179-191.
88. K. CULIK II and S. DUBE, Fractal and Recurrent Behavior of Cellular Automata, *Complex Systems*, 1989, 3, pp. 253-267.
89. K. CULIK II, New Techniques for Proving the Decidability of Equivalence Problems, *Theoretical Computer Science*, 1990, 71, pp. 29-45.
90. K. CULIK II, L. P. HURD and S. YU, Formal Languages and Global Cellular Automata Behavior, *Physica D*, 1990, 45, pp. 396-403.
91. K. CULIK II, L. P. HURD and S. YU, Computation Theoretic Aspect of Cellular Automata, *Physica D*, 1990, 45, pp. 357-378.
92. K. CULIK II and J. KARHUMÄKI, Loops in Automata and HDTOL Relations, *RAIRO Informatique théorique*, 1990, 24, pp. 327-336.
93. K. CULIK II and T. HARJU, Dominoes, Splicing Semigroups and DNA, *Discrete Applied Mathematics*, 1991, 31, pp. 261-277.

94. K. CULIK II and S. YU, Cellular Automata, $\omega\omega$ -Regular Sets, and Sofic Systems, *Discrete Applied Mathematics*, 1991, 32, pp. 85-102.
95. K. CULIK II and S. DUBE, An Efficient Solution to the Firing Mob Problem, *Theor. Comp. Science*, 1991, 91, pp. 57-69.
96. L. HURD, J. KARI and K. CULIK II, The Topological Entropy of Cellular Automata is Uncomputable. *Ergodic Theory and Dynamical Systems*, 1992, 12, pp. 255-265.
97. K. CULIK II and S. DUBE, Rational and Affine Expressions for Image Description, *Discrete Applied Mathematics*, 1993, 41, pp. 85-120.
98. K. CULIK and J. KARI, Image Compression Using Weighted Finite Automata. *Computer and Graphics*, vol. 17, 1993, 3, pp. 305-313.
99. K. CULIK II and S. DUBE, L-systems and Mutually Recursive Function Systems, *Acta Informatica*, 1993, 30, pp. 279-302.
100. K. CULIK and S. DUBE, Affine Automata and Related Techniques for Generation of Complex Images. *Theoretical Computer Science*, 1993, 116, pp. 373-398.
101. K. CULIK II and S. DUBE, Balancing Order and Chaos in Image Generation, *Computer and Graphics* (to appear).
102. K. CULIK II and S. DUBE, Encoding Images as Words and Languages. *Int. J. of Algebra and Computation* (to appear).
103. K. CULIK II and J. KARHUMÄKI, Iterative Devices Generating Infinite words. *Int. J. on Foundation of Computer Science* (to appear).
104. K. CULIK II and J. KARHUMÄKI, Finite Automata Computing Real Functions. *SIAM J. on Computing* (to appear).
105. K. CULIK II and I. FRIS, Weighted Finite Transducers in Image Processing. *Discrete Applied Mathematics* (to appear).

Contributions to Books:

1. K. CULIK II and J. OPATRYNY, Context in Parallel Rewriting, in L-systems, edited by G. Rozenberg and A. Salomaa, *Lectures Notes in Computer Science*, Springer-Verlag, 1974, 15, pp. 230-243.
2. K. CULIK II, Structural OL Systems, in L-systems, edited by G. Rozenberg, A. Salomaa, *Lectures Notes in Computer Science*, 1974, 15, pp. 216-219.
3. K. CULIK II and J. OPATRYNY, Time Complexity of L-systems, in *Automata, Languages, Development*, edited by A. Lindenmayer and G. Rozenberg, North-Holland, Amsterdam, 1976, pp. 243-250.
4. K. CULIK II and Y. KOBUCHI, Simulation Relation of Dynamical Systems, in *Progress in Cybernetics and Systems Research*, edited by R. Trappl, Hemisphere Publi. Corp., Washington, D. C., 1980, pp. 251-255.
5. K. CULIK II and M. FARAH, Linked Forest Manipulating Systems, a Tool for Computational Semantics, in *Advances Information Systems Science*, Vol. 8, edited by T. Tou, Plenum Publ., 1981, pp. 75-118.
6. K. CULIK II, Homomorphisms: Decidability, Equality and Tests Sets, in *Formal Language Theory, Perspectives and Open Problem* edited by R. Book, Academic Press, 1980, pp. 167-194.
7. C. CHOFFRUT and K. CULIK II, Folding of the Plane and the Design of Systolic Arrays, in *Dynamical Systems and Cellular Automata*, edited by J. Demongeot, E. Goles and M. Tchuente, Academic Press, 1984, pp. 313-320.
8. K. CULIK II and J. KARHUMÄKI, A New Proof for The DOL Sequence Equivalence Problem and Its Implications, in *Book of L*, edited by G. Rozenberg and A. Salomaa, Springer-Verlag, 1985, pp. 63-74.

9. K. CULIK II and J. KARHUMÄKI, The Decidability of the DTOL Sequence Problem and Related Decision Problems, in *The Very Knowledge of Coding*, edited by H. Laakso and A. Salomaa, University Press, 1987, pp. 43-54.
10. K. CULIK II and J. KARHUMÄKI, Systems of Equations over a Finitely Generated Free Monoid Having an Effectively Findable Equivalent Finite Subsystem, in *Semigroups Theory and Applications*, edited by H. Jürgensen, G. Lallement and H. J. Weinert, *Lecture Notes in Mathematics*, Springer, 1988, 1320, pp. 18-27.
11. K. CULIK II and J. KARHUMÄKI, A Note of HTOL Languages and the Equivalence of Deterministic Pushdown Transducers, in *A Perspective in Theoretical Computer Science – A commemorative volume to Gift Siromoney*, edited by R. Narasimhan, World Scientific Publishing Company PPTe Ltd., Singapore, Series in Computer Science, Vol. 16, 1989, pp. 23-32.
12. K. CULIK II, L. P. HURD and S. YU, Formal Languages and Global Cellular Automata Behavior, in *Cellular Automata: Theory and Experiment*, edited by H. Gutowitz, reprinted from *Physica D*, MIT Press – North Holland, 1991, pp. 396-403.
13. K. CULIK II, L. P. HURD and S. YU, Computation Theoretic Aspect of Cellular Automata, in *Cellular Automata: Theory and Experiment*, edited by H. Gutowitz, reprinted from *Physica D*, MIT Press – North Holland, 1991, pp. 357-378.
14. K. CULIK II, J. KARHUMÄKI and A. LEPISTÖ, Alternating Iteration of Morphisms and the Kolakovski sequence, In: *Lindenmayer Systems*, edited by G. Rozenberg and A. Salomaa, Springer-Verlag, 1992, pp. 93-103.
15. K. CULIK II and S. YU, Topological Transformations of Systolic Systems, in: *Transformational Approaches to Systolic Designs*, edited by G. M. Megson, Springer-Verlag (to appear).
16. K. CULIK II and J. KARI, *Mechanisms for Pattern Generation*, Proceedings of the Conference on Pattern Formation, Ontario, Cal., MIT Press (to appear).
17. K. CULIK II and J. KARI, Efficient Inference Algorithm for Weighted Finite Automata, in *Fractal Image Encoding and Compression*, ed. Y. Fisher, Springer-Verlag (to appear).