

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/conditions>). 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. OPATRNY, 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. OPATRNY, 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).