

References

- [1] G. Agha, *Actors: A Model of Concurrent Computation in Distributed Systems*, MIT Press, Cambridge, MA, 1986.
- [2] G. Agha, "Abstracting Interaction Patterns: A Programming Paradigm for Open Distributed Systems," in *Formal Methods for Open Object-based Distributed Systems*, IFIP Transactions, E. Najm and J.-B. Stefani, Eds., Chapman & Hall, 1997.
- [3] G. Agha, "Concurrent object-oriented programming," *Communications of the ACM*, 33(9):125–140, Sept. 1990.
- [4] G. Agha, S. Frolund, W. Kim, R. Panwar, A. Patterson, and D. Sturman, "Abstraction and modularity mechanisms for concurrent computing. *IEEE Parallel and Distributed Technology: Systems and Applications*, 1(2):3–14, May 1993.
- [5] G. Agha, I. A. Mason, S. F. Smith, and C. L. Talcott, "A foundation for actor computation. *Journal of Functional Programming*, 7(1):1–72, 1997.
- [6] R. Allen and D. Garlan, "Formalizing Architectural Connection," in *Proc. of the 16th International Conference on Software Engineering (ICSE 94)*, May 1994, pp. 71-80, IEEE Computer Society Press.
- [7] G. R. Andrews, *Concurrent Programming — Principles and Practice*, Addison-Wesley, 1991.
- [8] R. L. Bagrodia, "Parallel Languages for Discrete Event Simulation Models," *IEEE Computational Science & Engineering*, vol. 5, no. 2, April-June 1998, pp 27-38.
- [9] R. Bagrodia, R. Meyer, *et al.*, "Parsec: A Parallel Simulation Environment for Complex Systems," *IEEE Computer*, vol. 31, no. 10, October 1998, pp 77-85.
- [10] P. Baldwin, S. Kohli, E. A. Lee, X. Liu and Y. Zhao, "Modeling of Sensor Nets in Ptolemy II," In *Proceedings of Information Processing in Sensor Networks (IPSN)*, Berkeley, CA, USA, April 26-27, 2004.
- [11] P. Baldwin, S. Kohli, E. A. Lee, X. Liu and Y. Zhao, "Visualsense: Visual Modeling for Wireless and Sensor Network Systems," Technical Memorandum UCB/ERL M04/08, University of California, Berkeley, April 23, 2004.
- [12] M. von der Beeck, "A Comparison of Statecharts Variants," in *Proc. of Formal Techniques in Real Time and Fault Tolerant Systems*, LNCS 863, pp. 128-148, Springer-Verlag, 1994.
- [13] A. Benveniste and G. Berry, "The Synchronous Approach to Reactive and Real-Time Systems," *Proceedings of the IEEE*, Vol. 79, No. 9, 1991, pp. 1270-1282.
- [14] A. Benveniste and P. Le Guernic, "Hybrid Dynamical Systems Theory and the SIGNAL Language," *IEEE Tr. on Automatic Control*, Vol. 35, No. 5, pp. 525-546, May 1990.

-
- [15] G. Berry and G. Gonthier, "The Esterel synchronous programming language: Design, semantics, implementation," *Science of Computer Programming*, 19(2):87-152, 1992.
- [16] S. Bhatt, R. M. Fujimoto, A. Ogielski, and K. Perumalla, "Parallel Simulation Techniques for Large-Scale Networks," *IEEE Communications Magazine*, Vol. 36, No. 8, August 1998, pp. 42-47.
- [17] S. S. Bhattacharyya, P. K. Murthy and E. A. Lee, *Software Synthesis from Dataflow Graphs*, Kluwer Academic Publishers, Norwell, Mass, 1996.
- [18] J. Bier, E. Goei, W. Ho, P. Lapsley, M. O'Reilly, G. Sih and E. A. Lee, "Gabriel: A Design Environment for DSP," *IEEE Micro Magazine*, October 1990, vol. 10, no. 5, pp. 28-45.
- [19] C. H. Brooks and E. A. Lee, "Ptolemy II Coding Style," Technical Memorandum UCB/ERL M03/44, University of California at Berkeley, November 24, 2003.
- [20] Randy Brown, "CalendarQueue: A Fast Priority Queue Implementation for The Simulation Event Set Problem", *Communications of the ACM*, October 1998, Volume 31, Number 10.
- [21] V. Bryant, "Metric Spaces," Cambridge University Press, 1985.
- [22] J. T. Buck, S. Ha, E. A. Lee, and D. G. Messerschmitt, "Ptolemy: A Framework for Simulating and Prototyping Heterogeneous Systems," *Int. Journal of Computer Simulation*, special issue on "Simulation Software Development," vol. 4, pp. 155-182, April, 1994. (<http://ptolemy.eecs.berkeley.edu/publications/papers/94/JEurSim>)
- [23] A. Burns, *Programming in OCCAM 2*, Addison-Wesley, 1988.
- [24] James C. Candy, "A Use of Limit Cycle Oscillations to Obtain Robust Analog-to-Digital Converters," *IEEE Tr. on Communications*, Vol. COM-22, No. 3, pp. 298-305, March 1974.
- [25] A. Cataldo, C. Hylands, E. A. Lee, J. Liu, X. Liu, S. Neuendorffer and H. Zheng, "Hyvisual: A Hybrid System Visual Modeler," Technical Memorandum UCB/ERL M03/30, University of California, Berkeley, July 17, 2003.
- [26] L. Cardelli, *Type Systems*, Handbook of Computer Science and Engineering, CRC Press, 1997.
- [27] P. Caspi, D. Pilaud, N. Halbwachs, and J. A. Plaice, "LUSTRE: A Declarative Language for Programming Synchronous Systems," *Conference Record of the 14th Annual ACM Symp. on Principles of Programming Languages*, Munich, Germany, January, 1987.
- [28] K. M. Chandy and J. Misra, "Asynchronous Distributed Simulation Via a Sequence of Parallel Computations," *Communications of the ACM*, vol. 24, no. 11, November 1981, pp. 198-205.
- [29] I. Craig, *The Interpretation of Object-Oriented Programming Languages*, Springer-Verlag, 2001.
- [30] B. A. Davey and H. A. Priestly, *Introduction to Lattices and Order*, Cambridge University Press, 1990.
- [31] John Davis II, "Order and Containment in Concurrent System Design," **Ph.D. thesis**, Memorandum UCB/ERL M00/47, Electronics Research Laboratory, University of California, Berkeley, September 8, 2000. (<http://ptolemy.eecs.berkeley.edu/publications/papers/00/concsys/>)
- [32] S. A. Edwards and E. A. Lee, "The Semantics and Execution of a Synchronous Block-Diagram Language," *Science of Computer Programming*, Vol. 48, no. 1, July 2003.

-
- [33] S. A. Edwards, "The Specification and Execution of Heterogeneous Synchronous Reactive Systems," **Ph.D. thesis**, University of California, Berkeley, May 1997. Available as UCB/ERL M97/31. (<http://ptolemy.eecs.berkeley.edu/papers/97/sedwardsThesis/>)
- [34] J. Eker, J. W. Janneck, E. A. Lee, J. Liu, X. Liu, J. Ludvig, S. Neuendorffer, S. Sachs, Y. Xiong, "Taming Heterogeneity-the Ptolemy Approach," *Proceedings of the IEEE*, V. 91, No 1, January 2003.
- [35] J. Eker and J. W. Janneck, "Cal Language Report: Specification of the Cal Actor Language," Technical Memorandum No. UCB/ERL M03/48, University of California, Berkeley, CA, December 1, 2003.
- [36] P. H. J. van Eijk, C. A. Vissers, M. Diaz, *The formal description technique LOTOS*, Elsevier Science, B.V., 1989. (<http://www.tios.cs.utwente.nl/lotos>)
- [37] R. Esser, "An Object Oriented Petri Net Approach to Embedded System Design," Ph.D. Thesis, ETH, Zurich, 1996.
- [38] P. A. Fishwick, *Simulation Model Design and Execution: Building Digital Worlds*, Prentice Hall, 1995.
- [39] C. Fong, "Discrete-Time Dataflow Models for Visual Simulation in Ptolemy II," Master's Report, Memorandum UCB/ERL M01/9, Electronics Research Laboratory, University of California, Berkeley, January 2001. (<http://ptolemy.eecs.berkeley.edu/publications/papers/00/dt/>)
- [40] M. Fowler and K. Scott, *UML Distilled*, Addison-Wesley, 1997.
- [41] R. M. Fujimoto, "Parallel Discrete Event Simulation," *Communications of the ACM*, vol. 33, no. 10, October 1990, pp 30-53.
- [42] E. Gamma, R. Helm, R. Johnson, and J. Vlissides, *Design Patterns: Elements of Reusable Object-Oriented Software*, Addison-Wesley, Reading MA, 1995.
- [43] C. W. Gear, "Numerical Initial Value Problems in Ordinary Differential Equations," Prentice Hall Inc. 1971.
- [44] A. J. C. van Gemund, "Performance Prediction of Parallel Processing Systems: The PAMELA Methodology," Proc. 7th Int. Conf. on Supercomputing, pages 418-327, Tokyo, July 1993.
- [45] A. Girault, B. Lee, and E. A. Lee, "Hierarchical Finite State Machines with Multiple Concurrency Models," April 13, 1998 (revised from Memorandum UCB/ERL M97/57, Electronics Research Laboratory, University of California, Berkeley, CA 94720, August 1997). (<http://ptolemy.eecs.berkeley.edu/publications/papers/98/starcharts>)
- [46] M. Goel, *Process Networks in Ptolemy II*, MS Report, ERL Technical Report UCB/ERL No. M98/69, University of California, Berkeley, CA 94720, December 16, 1998. (<http://ptolemy.eecs.berkeley.edu/publications/papers/98/PNinPtolemyII>)
- [47] G. Goessler and A. Sangiovanni-Vincentelli, "Compositional Modeling in Metropolis," In *Proceedings of Second International Workshop on Embedded Software (EMSOFT)*, Grenoble, France, Springer-Verlag, October 7-9, 2002, 2002.
- [48] M. Grand, *Patterns in Java, Volume 1, A Catalog of Reusable Design Patterns Illustrated with UML*, John Wiley & Sons, 1998.

-
- [49] C. Hansen, "Hardware logic simulation by compilation," In *Proceedings of the Design Automation Conference (DAC)*. SIGDA, ACM, 1988.
- [50] D. Harel, "Statecharts: A Visual Formalism for Complex Systems," *Sci. Comput. Program.*, vol 8, pp. 231-274, 1987.
- [51] P. G. Harrison, "A Higher-Order Approach to Parallel Algorithms," *The Computer Journal*, Vol. 35, No. 6, 1992.
- [52] T. A. Henzinger, B. Horowitz and C. M. Kirsch, "Giotto: A Time-Triggered Language for Embedded Programming," EMSOFT 2001, Tahoe City, CA, Springer-Verlag,
- [53] T. A. Henzinger, "The theory of hybrid automata," in *Proceedings of the 11th Annual Symposium on Logic in Computer Science*, IEEE Computer Society Press, 1996, pp. 278-292, invited tutorial.
- [54] T.A. Henzinger, and O. Kupferman, and S. Qadeer, "From prehistoric to postmodern symbolic model checking," in *CAV 98: Computer-aided Verification*, pp. 195-206, eds. A.J. Hu and M.Y. Vardi, Lecture Notes in Computer Science 1427, Springer-Verlag, 1998.
- [55] T. A. Henzinger and C. M. Kirsch, "The Embedded Machine: Predictable, portable real-time code," In *Proceedings of Conference on Programming Language Design and Implementation (PLDI)*. SIGPLAN, ACM, June 2002.
- [56] C. Hewitt, "Viewing control structures as patterns of passing messages," *Journal of Artificial Intelligence*, 8(3):323–363, June 1977.
- [57] M. G. Hinchey and S. A. Jarvis, *Concurrent Systems: Formal Developments in CSP*, McGraw-Hill, 1995.
- [58] C. W. Ho, A. E. Ruehli, and P. A. Brennan, "The Modified Nodal Approach to Network Analysis," *IEEE Tran. on Circuits and Systems*, Vol. CAS-22, No. 6, 1975, pp. 504-509.
- [59] C. A. R. Hoare, "Communicating Sequential Processes," *Communications of the ACM*, Vol. 21, No. 8, August 1978.
- [60] C. A. R. Hoare, *Communicating Sequential Processes*, Prentice-Hall, 1985.
- [61] IEEE DASC 1076.1 Working Group, "VHDL-A Design Objective Document, version 2.3," http://www.vhdl.org/analog/ftp_files/requirements/DOD_v2.3.txt
- [62] D. Jefferson, Brian Beckman, et al, "Distributed Simulation and the Time Warp Operating System," UCLA Computer Science Department: 870042, 1987.
- [63] G. Kahn, "The Semantics of a Simple Language for Parallel Programming," *Proc. of the IFIP Congress 74*, North-Holland Publishing Co., 1974.
- [64] G. Kahn and D. B. MacQueen, "Coroutines and Networks of Parallel Processes," *Information Processing 77*, B. Gilchrist, editor, North-Holland Publishing Co., 1977.
- [65] G. Karsai, M. Maroti, Á. Lédeczi, J. Gray and J. Sztipanovits, "Type Hierarchies and Composition in Modeling and Meta-Modeling Languages," *IEEE Transactions on Control System Technology*, to appear, 2004.
- [66] G. Karsai, "A Configurable Visual Programming Environment: A Tool for Domain-Specific Programming," *IEEE Computer*: 36-44, March 1995, 1995.

-
- [67] E. Kohler, *The Click Modular Router*, Ph.D. Thesis, Massachusetts Institute of Technology, Department of Electrical Engineering and Computer Science, February 2001.
- [68] H. Kopetz, *Real-Time Systems: Design Principles for Distributed Embedded Applications*, Kluwer Academic Publishers, 1997.
- [69] P. Laramie, R.S. Stevens, and M.Wan, "Kahn process networks in Java," ee290n class project report, Univ. of California at Berkeley, 1996.
- [70] D. Lea, *Concurrent Programming in JavaTM*, Addison-Wesley, Reading, MA, 1997.
- [71] B. Lee and E. A. Lee, "Interaction of Finite State Machines with Concurrency Models," *Proc. of Thirty Second Annual Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, California, November 1998. (<http://ptolemy.eecs.berkeley.edu/publications/papers/98/Interaction-FSM/>)
- [72] B. Lee and E. A. Lee, "Hierarchical Concurrent Finite State Machines in Ptolemy," *Proc. of International Conference on Application of Concurrency to System Design*, p. 34-40, Fukushima, Japan, March 1998 (<http://ptolemy.eecs.berkeley.edu/publications/papers/98/HCFSMInPtolemy/>)
- [73] E. A. Lee and S. Neuendorffer, "Classes and Subclasses in Actor-Oriented Design," In *Proceedings of Conference on Formal Methods and Models for Codesign (MEMOCODE)*, San Diego, CA, USA, June 22-25, 2004.
- [74] E. A. Lee and Y. Xiong, "A Behavioral Type System and Its Application in Ptolemy II," *Formal Aspects of Computing Journal*, special issue on Semantic Foundations of Engineering Design Languages, to appear, 2004.
- [75] E. A. Lee, S. Neuendorffer and M. J. Wirthlin, "Actor-Oriented Design of Embedded Hardware and Software Systems," *Journal of Circuits, Systems, and Computers*, 12(3): 231-260, 2003, 2003.
- [76] E. A. Lee, "Embedded Software," in *Advances in Computers* (M. Zelkowitz, editor), Vol. 56, Academic Press, London, 2002.
- [77] E. A. Lee and T. M. Parks, "Dataflow Process Networks," in *Readings in Hardware/Software Co-Design*, G. De Micheli, R. Ernst, and W. Wolf, eds., Morgan Kaufmann, San Francisco, 2002 (reprinted from 82).
- [78] E. A. Lee, "What's Ahead for Embedded Software?" *IEEE Computer*, September 2000, pp. 18-26.
- [79] E. A. Lee, "Modeling Concurrent Real-time Processes Using Discrete Events," Invited paper to *Annals of Software Engineering*, Special Volume on Real-Time Software Engineering, Volume 7, 1999, pp 25-45. Also UCB/ERL Memorandum M98/7, March 4th 1998. (<http://ptolemy.eecs.berkeley.edu/publications/papers/98/realtime>)
- [80] E. A. Lee and Y. Xiong, "System-Level Types for Component-Based Design," *First Workshop on Embedded Software*, EMSOFT 2001, Lake Tahoe, CA, USA, Oct. 8-10, 2001. (also Technical Memorandum UCB/ERL M00/8, Electronics Research Lab, University of California, Berkeley, CA 94720, USA, February 29, 2000. (<http://ptolemy.eecs.berkeley.edu/publications/papers/01/systemLevelType/>)

-
- [81] E. A. Lee, "Computing for Embedded Systems," **invited paper**, *IEEE Instrumentation and Measurement Technology Conference*, Budapest, Hungary, May 21-23, 2001.
- [82] E. A. Lee and T. M. Parks, "Dataflow Process Networks," *Proceedings of the IEEE*, vol. 83, no. 5, pp. 773-801, May, 1995. (<http://ptolemy.eecs.berkeley.edu/publications/papers/95/processNets>)
- [83] E. A. Lee and A. Sangiovanni-Vincentelli, "A Framework for Comparing Models of Computation," *IEEE Transactions on CAD*, Vol 17, No. 12, December 1998 (Revised from ERL Memorandum UCB/ERL M97/11, University of California, Berkeley, CA 94720, January 30, 1997). (<http://ptolemy.eecs.berkeley.edu/publications/papers/97/denotational/>)
- [84] E. A. Lee and D. G. Messerschmitt, "Static Scheduling of Synchronous Data Flow Programs for Digital Signal Processing," *IEEE Trans. on Computers*, January, 1987.
- [85] M. A. Lemkin, *Micro Accelerometer Design with Digital Feedback Control*, Ph.D. dissertation, University of California, Berkeley, Fall 1997.
- [86] S. Y. Liao, S. Tjiang, and R. Gupta, "An efficient implementation of reactivity for modeling hardware in the Scenic design environment," In *Proceedings of the 34th Design Automation Conference (DAC'1997)*. SIGDA, ACM, 1997.
- [87] J. Liu, J. Eker, J. W. Janneck and E. A. Lee, "Realistic Simulations of Embedded Control Systems," *International Federation of Automatic Control, 15th IFAC World Congress*, Barcelona, Spain, July 21-26, 2002.
- [88] J. Liu, X. Liu, and E. A. Lee, "Modeling Distributed Hybrid Systems in Ptolemy II," **invited embedded tutorial** in *American Control Conference*, Arlington, VA, June 25-27, 2001.
- [89] J. Liu, S. Jefferson, and E. A. Lee, "Motivating Hierarchical Run-Time Models in Measurement and Control Systems," *American Control Conference*, Arlington, VA, pp. 3457-3462, June 25-27, 2001.
- [90] J. Liu and E. A. Lee, "A Component-Based Approach to Modeling and Simulating Mixed-Signal and Hybrid Systems," *ACM Trans. on Modeling and Computer Simulation*, special issue on computer automated multi-paradigm modeling, Volume 12, Issue 4, pp. 343-368, October 2002.
- [91] J. Liu and E. A. Lee, "On the Causality of Mixed-Signal and Hybrid Models," *6th International Workshop on Hybrid Systems: Computation and Control (HSCC '03)*, April 3-5, Prague, Czech Republic, 2003.
- [92] J. Liu and E. A. Lee, "Timed Multitasking for Real-Time Embedded Software," *IEEE Control Systems Magazine*: 65-75, February, 2003.
- [93] J. Liu, "Responsible Frameworks for Heterogeneous Modeling and Design of Embedded Systems," **Ph.D. thesis**, Technical Memorandum UCB/ERL M01/41, University of California, Berkeley, CA 94720, December 20th, 2001. (<http://ptolemy.eecs.berkeley.edu/publications/papers/01/responsibleFrameworks/>)
- [94] J. Liu, *Continuous Time and Mixed-Signal Simulation in Ptolemy II*, MS Report, UCB/ERL Memorandum M98/74, Dept. of EECS, University of California, Berkeley, CA 94720, December 1998. (<http://ptolemy.eecs.berkeley.edu/publications/papers/98/MixedSignalinPtII/>)

-
- [95] J. Liu and E. A. Lee, "Component-based Hierarchical Modeling of Systems with Continuous and Discrete Dynamics," *Proc. of the 2000 IEEE International Conference on Control Applications and IEEE Symposium on Computer-Aided Control System Design (CCA/CACSD'00)*, Anchorage, AK, September 25-27, 2000. pp. 95-100
- [96] J. Liu, X. Liu, T. J. Koo, B. Sinopoli, S. Sastry, and E. A. Lee, "A Hierarchical Hybrid System and Its Simulation", 1999 38th IEEE Conference on Decision and Control (CDC'99), Phoenix, Arizona.
- [97] X. Liu, J. Liu, J. Eker, and E. A. Lee, "Heterogeneous Modeling and Design of Control Systems," in *Software-Enabled Control: Information Technology for Dynamical Systems*, T. Samad and G. Balas (eds.), New York City: IEEE Press, 2003.
- [98] D. C. Luckham and J. Vera, "An Event-Based Architecture Definition Language," *IEEE Transactions on Software Engineering*, 21(9), pp. 717-734, September, 1995.
- [99] F. Maraninchi, "The Argos Language: Graphical Representation of Automata and Description of Reactive Systems," in *Proc. of the IEEE Workshop on Visual Languages*, Kobe, Japan, Oct. 1991.
- [100] S. McConnell, *Code Complete: A Practical Handbook of Software Construction*, Microsoft Press, 1993.
- [101] K. Mehlhorn and Stefan Naher. *LEDA: A Platform for Combinatorial and Geometric Computing*. Cambridge University Press, 1997.
- [102] B. Meyer, *Object Oriented Software Construction*, 2nd ed., Prentice Hall, 1997.
- [103] R. Milner, *Communication and Concurrency*, Prentice-Hall, Englewood Cliffs, NJ, 1989.
- [104] R. Milner, "A Calculus of Communicating Systems", Lecture Notes in Computer Science, Vol. 92, Springer-Verlag, 1980.
- [105] R. Milner, *A Theory of Type Polymorphism in Programming*, Journal of Computer and System Sciences 17, pp. 384-375, 1978.
- [106] J. Misra, "Distributed Discrete-Event Simulation," *Computing Surveys*, vol. 18, no. 1, March 1986, pp. 39-65.
- [107] L. Muliadi, "Discrete Event Modeling in Ptolemy II," MS Report, Dept. of EECS, University of California, Berkeley, CA 94720, May 1999. (<http://ptolemy.eecs.berkeley.edu/publications/papers/99/deModeling/>)
- [108] P. K. Murthy and E. A. Lee, "Multidimensional Synchronous Dataflow," *IEEE Transactions on Signal Processing*, volume 50, no. 8, pp. 2064 -2079, August 2002.
- [109] L. W. Nagal, "SPICE2: A Computer Program to Simulate Semiconductor Circuits," ERL Memo No. ERL-M520, Electronics Research Laboratory, University of California, Berkeley, CA 94720.
- [110] NASA Office of Safety and Mission Assurance, *Software Formal Inspections Guidebook*, August 1993 (<http://satc.gsfc.nasa.gov/fi/gdb/fitext.txt>).
- [111] S. Neuendorffer, "Automatic Specialization of Actor-Oriented Models in Ptolemy II," Master's Report, Technical Memorandum UCB/ERL M02/41, University of California, Berkeley, CA 94720, December 25, 2002. (<http://ptolemy.eecs.berkeley.edu/papers/02/actorSpecialization>)

-
- [112]A. R. Newton and A. L. Sangiovanni-Vincentelli, "Relaxation-Based Electrical Simulation," *IEEE Tr. on Electronic Devices*, Vol. ed-30, No. 9, Sept. 1983.
- [113]S. Oaks and H. Wong, *Java Threads*, O'Reilly, 1997.
- [114]OMG, *Unified Modeling Language: Superstructure*, version 2.0, 3rd revised submission to RFP ad/00-09-02, April 10, 2003
- [115]J. K. Ousterhout, *Tcl and the Tk Toolkit*, Addison-Wesley, Reading, MA, 1994.
- [116]J. K. Ousterhout, *Scripting: Higher Level Programming for the 21 Century*, IEEE Computer magazine, March 1998.
- [117]T. M. Parks, *Bounded Scheduling of Process Networks*, Technical Report UCB/ERL-95-105. **Ph.D. Dissertation**. EECS Department, University of California. Berkeley, CA 94720, December 1995. (<http://ptolemy.eecs.berkeley.edu/publications/papers/95/parksThesis/>)
- [118]J. K. Peacock, J. W. Wong and E. G. Manning, "Distributed Simulation Using a Network of Processors," *Computer Networks*, vol. 3, no. 1, February 1979, pp. 44-56.
- [119]Rational Software Corporation, *UML Notation Guide*, Version 1.1, September 1997, <http://www.rational.com/>
- [120]J. Reekie, S. Neuendorffer, C. Hylands and E. A. Lee, "Software Practice in the Ptolemy Project," Technical Report Series, GSRC-TR-1999-01, Gigascale Silicon Research Center, University of California, Berkeley, CA 94720, April 1999. (<http://ptolemy.eecs.berkeley.edu/publications/papers/99/sftwareprac/>)
- [121]J. Rehof and T. Mogensen, "Tractable Constraints in Finite Semilattices," *Third International Static Analysis Symposium*, pp. 285-301, Volume 1145 of Lecture Notes in Computer Science, Springer, Sept., 1996.
- [122]J. H. Reppy, "CML: A Higher-Order Concurrent Language," *SIGPLAN Notices*, 26(6): 293-305, June, 1991.
- [123]C. Rettig, "Automatic Units Tracking," *Embedded System Programming*, March, 2001.
- [124]A. J. Riel, *Object Oriented Design Heuristics*, Addison Wesley, 1996.
- [125]R. C. Rosenberg and D.C. Karnopp, *Introduction to Physical System Dynamics*, McGraw-Hill, NY, 1983.
- [126]J. Rowson and A. Sangiovanni-Vincentelli, "Interface Based Design," *Proc. of DAC '97*.
- [127]J. Rumbaugh, et al. *Object-Oriented Modeling and Design* Prentice Hall, 1991.
- [128]J. Rumbaugh, *OMT Insights*, SIGS Books, 1996.
- [129]S. Saracco, J. R. W. Smith, and R. Reed, *Telecommunications Systems Engineering Using SDL*, North-Holland - Elsevier, 1989.
- [130]B. Selic, G. Gullekson, and P. Ward, *Real-Time Object-Oriented Modeling*, John Wiley & Sons, New York, NY 1994.

-
- [131]N. Smyth, *Communicating Sequential Processes Domain in Ptolemy II*, MS Report, UCB/ERL Memorandum M98/70, Dept. of EECS, University of California, Berkeley, CA 94720, December 1998. (<http://ptolemy.eecs.berkeley.edu/publications/papers/98/CSPinPtolemyII/>)
- [132]I. E. Sutherland, "Sketchpad - a Man-Machine Graphical Communication System," Technical Report 296, MIT Lincoln Laboratory, January, 1963.
- [133]W. R. Sutherland, "The on-Line Graphical Specification of Computer Procedures," Ph.D. Thesis, MIT, Cambridge, MA, 1966.
- [134]J. Teich, E. Zitzler, and S. Bhattacharyya, "3D exploration of software schedules for DSP algorithms," In *Proceedings of International Symposium on Hardware/Software Codesign (CODES)*. SIGDA, ACM, May 1999.
- [135]J. Tsay, "A Code Generation Framework for Ptolemy II," ERL Technical Report UCB/ERL No. M00/25, Dept. EECS, University of California, Berkeley, CA 94720, May 19, 2000. (<http://ptolemy.eecs.berkeley.edu/publications/papers/00/codegen>).
- [136]J. Tsay, C. Hylands and E. A. Lee, "A Code Generation Framework for Java Component-Based Designs," *CASES '00*, November 17-19, 2000, San Jose, CA.
- [137]P. Whitaker, "The Simulation of Synchronous Reactive Systems In Ptolemy II," Master's Report, Memorandum UCB/ERL M01/20, Electronics Research Laboratory, University of California, Berkeley, May 2001. (<http://ptolemy.eecs.berkeley.edu/publications/papers/01/sr/>)
- [138]World Wide Web Consortium, *XML 1.0 Recommendation*, October 2000, <http://www.w3.org/XML/>
- [139]World Wide Web Consortium, *Overview of SGML Resources*, August 2000, <http://www.w3.org/Markup/SGML/>
- [140]Y. Xiong and E. A. Lee, "An Extensible Type System for Component-Based Design," *6th International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, Berlin, Germany, March/April 2000. LNCS 1785.
- [141]Y. Xiong, "An Extensible Type System for Component-Based Design," **Ph.D. thesis**, Technical Memorandum UCB/ERL M02/13, University of California, Berkeley, CA 94720, May 1, 2002. (<http://ptolemy.eecs.berkeley.edu/papers/02/typeSystem>).
- [142]Y. Zhao, "A Model of Computation with Push and Pull Processing," Masters Thesis, Technical Memorandum No. UCB/ERL M03/51, University of California, Berkeley, December 16, 2003.

