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| Nota di contenuto | A note on hyperedge replacement -- Graph grammars based on node rewriting: an introduction to NLC graph grammars -- Tutorial introduction to the algebraic approach of graph grammars based on double and single pushouts -- The logical expression of graph properties -- Panel discussion: The use of graph grammars in applications -- GraphEd: An interactive tool for developing graph grammars -- Presentation of the IPSEN-Environment: An Integrated and |

Incremental Project Support ENviroment -- Presentation of the PROGRESS-Editor: A text-oriented hybrid editor for PROgrammed Graph REwriting SyStems -- PLEXUS: Tools for analyzing graph grammars -- An algebraic theory of graph reduction -- Programming with very large graphs -- Describing Göttler's operational graph grammars with pushouts -- General solution to a system of recursive equations on hypergraphs -- Construction of map OL-systems for developmental sequences of plant cell layers -- Layout graph grammars: The placement approach -- Cycle chain code picture languages -- An efficient implementation of graph grammars based on the RETE matching algorithm -- An application of graph grammars to the elimination of redundancy from functions defined by schemes -- Graphic equivalence and computer optimization -- Graph grammars and logic programming -- Graphs as relational structures : An algebraic and logical approach -- Context-free handle-rewriting hypergraph grammars -- From graph grammars to high level replacement systems -- Algebraic specification grammars: A junction between module specifications and graph grammars -- A characterization of context-free NCE graph languages by monadic second-order logic on trees -- The term generating power of context-free hypergraph grammars -- Elementary actions on an extended entity-relationship database -- Physically-based graphical interpretation of marker cellwork L-systems -- Dactl: An experimental graph rewriting language -- Use graph grammars to design CAD-systems ! -- Collage grammars -- The four musicians: analogies and expert systems — a graphic approach -- Structured transformations and computation graphs for actor grammars -- Grammatical inference based on hyperedge replacement -- Specifying concurrent languages and systems with ?-grammars -- Graph rewriting in some categories of partial morphisms -- Application of graph grammars to rule-based systems -- Tree automata, tree decomposition and hyperedge replacement -- Recognizing rooted context-free flowgraph languages in polynomial time -- Computing with graph relabelling systems with priorities -- Double-wall cellwork systems for plant meristems -- Programmed derivations of relational structures -- A specification environment for graph grammars -- The theory of graphoids: A survey -- Graph-reducible term rewriting systems -- A note on graph decimation -- Progress: A VHL-language based on graph grammars -- Movement of objects in configuration spaces modelled by graph grammars -- Recognizing edge replacement graph languages in cubic time -- Computing by graph transformation: Overall aims and new results.

Sommario/riassunto

This volume contains papers selected from the contributions to the 4th International Workshop on Graph Grammars and Their Application to Computer Science. It is intended to provide a rich source of information on the stateof the art and newest trends to researchers active in the area and for scientists who would like to know more about graph grammars. The topics of the papers range from foundations through algorithmic and implemental aspects to various issues that arise in application areas like concurrent computing, functional and logic programming, software engineering, computer graphics, artificial intelligence and biology. The contributing authors are F.-J. Brandenburg, H. Bunke, T.C. Chen, M. Chytil, B. Courcelle, J. Engelfriet, H. G|ttler, A. Habel, D. Janssens, C. Lautemann, B. Mayoh, U. Montanari, M. Nagl, F. Parisi-Presicci, A. Paz, P. Prusinkiewics, M.R. Sleep, A. Rosenfeld, J. Winkowski and others.