

# A Complete Bibliography of Publications in *Fundamenta Informaticae*: (2020–2029)

Nelson H. F. Beebe  
University of Utah  
Department of Mathematics, 110 LCB  
155 S 1400 E RM 233  
Salt Lake City, UT 84112-0090  
USA

Tel: +1 801 581 5254  
FAX: +1 801 581 4148

E-mail: [beebe@math.utah.edu](mailto:beebe@math.utah.edu), [beebe@acm.org](mailto:beebe@acm.org),  
[beebe@computer.org](mailto:beebe@computer.org) (Internet)  
WWW URL: <http://www.math.utah.edu/~beebe/>

02 May 2023  
Version 1.01

## Title word cross-reference

$(g, d, k)$  [25]. **\$-Calculus** [245]. 1 [5].  $b$  [190].  $\mathcal{DL}$  [83, 115].  $\mathcal{S}$  [82].  $e$  [91].  $k$  [149, 20].  $K_4$  [91].  $L_1$  [11].  $\mathbf{A}_n$  [198].  $\mathbf{A}_r$  [215].  $\mathbf{K}$  [95].  $q$  [18].  $t$  [211].  $T_1$  [7].  
 $\times$  [83, 115].

**-ary** [211]. **-Bounded** [190]. **-Connectivity** [25]. **-edge-Connectivity** [25].  
**-exhaustions** [184]. **-Fault** [5]. **-free** [91]. **-Matrices** [18]. **-means** [20].  
**-rendezvous** [149].

**1966** [228].

**2-domination** [213].

**Aalst** [184]. **Abstract** [95]. **Abstraction** [237, 103, 241]. **Accepted**  
[150, 144]. **Accessibility** [31]. **Ackermann** [183]. **Action** [22]. **Actions**

[107]. **Active** [178]. **Activity** [11]. **Actors** [94]. **Acyclic** [205]. **Adaptive** [247, 30]. **Adding** [157]. **Addition** [243]. **Additional** [66]. **Address** [244]. **Affine** [192, 223]. **Again** [212]. **agent** [59]. **Aggregated** [203]. **Aggregates** [80]. **Aggregation** [246]. **Algebra** [132, 1, 129]. **Algebraic** [51, 151, 86, 129]. **Algebras** [223, 85]. **Algorithm** [199, 89, 220, 20]. **Algorithmic** [239]. **Algorithms** [84, 177, 88, 245, 35, 110, 46, 152, 9, 179]. **Allowing** [239]. **Alternative** [200]. **Analyses** [172]. **Analysis** [80, 171, 127, 88, 81, 131]. **Analyzing** [53]. **and/or** [97]. **angle** [12]. **Answer** [96, 78]. **Antimagic** [211, 45]. **Anywhere** [147]. **Apartness** [204]. **Application** [192, 237]. **Applications** [217, 186, 46, 200]. **Approach** [117, 83, 9, 146, 78, 176, 12, 136]. **Approximate** [177]. **Approximations** [125, 130]. **Arc** [55]. **Arrays** [40]. **Articulations** [186]. **ary** [211]. **Assessments** [156]. **Association** [114]. **Associativity** [97]. **Attack** [172]. **Attack-fault** [172]. **Attenuation** [11]. **Augmented** [71]. **Authenticated** [27]. **Autoepistemic** [78]. **Automata** [248, 150, 209, 138, 63, 197, 159, 110, 152, 141, 161, 233, 106, 144]. **Automated** [125, 195, 15]. **Automath** [218]. **Auxiliary** [141]. **Aware** [170, 26, 43]. **aWide** [89]. **Axiomatizing** [72]. **Axioms** [97].

**Back** [212]. **Baire** [225]. **Balanced** [109]. **Balancing** [118]. **Band** [118]. **Barnette** [242]. **Base** [48]. **Based** [237, 175, 197, 195, 47, 37, 115, 53]. **Basic** [239]. **BCK** [47]. **BCK-codes** [47]. **Behavioural** [84]. **between** [164]. **Betweenness** [177]. **BGM** [220]. **BGN** [246]. **Bijjective** [199]. **Binary** [223, 46, 8, 23]. **Binding** [30]. **Bipartite** [38]. **Bisimilarity** [31]. **Boolean** [127, 156, 52, 161, 182]. **Bound** [149]. **Bounded** [190]. **Bounds** [86]. **BPP** [145]. **Brain** [10]. **Branching** [207]. **Breaker** [210]. **Bruijn** [218]. **Buchberger** [199]. **Büchi** [152]. **Buffer** [105]. **Built** [244]. **Built-in** [244]. **Butterfly** [180]. **Byzantine** [27].

**Calculi** [229]. **Calculus** [90]. **Call** [192]. **Cancer** [81]. **Capacity** [143]. **Cartan** [167]. **Cartesian** [109]. **Case** [156]. **Causal** [33, 145, 111]. **Causal-Consistent** [111]. **Cause** [122]. **Cause-Effect** [122]. **Cellular** [209, 233]. **Centers** [192]. **Centrality** [177, 10]. **centric** [57]. **Change** [247]. **Characterisation** [105]. **Characterisations** [151]. **Characterising** [10]. **Characteristics** [218]. **Check** [47]. **Checker** [116, 218]. **Checking** [237, 102, 114, 36, 196]. **choice** [184, 165]. **CIFF** [82]. **Circuit** [53]. **Circular** [163]. **Classification** [85, 16, 198, 167]. **Classroom** [44]. **Clinical** [74, 54, 176]. **Clock** [106]. **Clock-Dependent** [106]. **Closed** [100]. **Closeness** [66]. **Closure** [79, 119]. **Closures** [248]. **Cluster** [70]. **Clustering** [203]. **Clusters** [165]. **codes** [47]. **Coinductive** [152]. **Coloring** [211, 45]. **Column** [26]. **Combinations** [97]. **Combinatorial** [46]. **Combining** [36, 41]. **Communication** [69]. **Commutativity** [97]. **Commuting** [18]. **Compactness** [4]. **Companion** [167]. **Companions** [64]. **Comparative** [125]. **Comparing** [58]. **Comparison** [51, 75]. **Comparisons**

[21]. **Compilation** [53]. **Complementary** [112]. **Complete** [109, 211, 230, 134, 141]. **Completeness** [223, 245]. **Complex** [123, 30]. **Complexity** [102, 156, 239, 238, 162, 35, 142, 190, 160]. **Composition** [44, 161]. **Compositional** [30]. **Compression** [166, 200]. **Computable** [183]. **Computation** [87, 54]. **Computational** [85, 219, 160]. **Computationally** [134]. **Computations** [205]. **Computers** [163]. **Computing** [38, 177, 206, 240, 128, 68, 92, 173, 176]. **Concept** [131]. **Concurrent** [236, 98, 111]. **Conditional** [162, 25]. **Conditional-** [25]. **Conditions** [170]. **Congress** [228]. **Congruence** [197]. **Congruence-Based** [197]. **Connected** [5]. **Connectivity** [25, 10]. **Consensus** [27]. **Conservation** [233]. **Consistency** [20, 55]. **Consistent** [21, 111]. **Constraint** [98, 35, 99, 55, 181]. **Constraints** [171, 195]. **Constructing** [71]. **Construction** [207]. **Constructive** [204]. **Constructor** [37]. **Constructor-Based** [37]. **Consumption** [94]. **Consumption-Preserving** [94]. **Context** [134]. **Contextual** [143]. **Contingent** [43]. **Continuous** [131]. **Contract** [95, 36]. **Control** [164, 171]. **Cooperative** [94]. **Copyful** [104]. **Core** [80]. **Corrector** [19, 89]. **Correlations** [22]. **Cost** [248, 245, 189, 22]. **Counters** [159]. **Counting** [153]. **Coverability** [187]. **Coxeter** [215]. **CP** [184]. **Critical** [52, 234]. **Crossover** [51]. **Crystal** [202]. **CSP** [40]. **Cubes** [71]. **Cubicle** [116]. **Curry** [36]. **Curve** [147]. **Curves** [119, 200]. **Cycle** [109]. **Cycles** [213, 242]. **Cyclic** [205]. **Cylinders** [213].

**D4** [83, 115]. **Daniel** [231]. **Data** [74, 170, 246, 75, 173, 81]. **Data-Aware** [170]. **Databases** [26]. **DBpedia** [16]. **Decentralized** [168]. **Decidability** [243, 129, 140]. **Decidable** [156]. **Decision** [120]. **Declarative** [116]. **Deep** [174]. **Definability** [243]. **Definite** [167]. **Degenerate** [58]. **degree** [200]. **Dependent** [106]. **Deriving** [100]. **Description** [83, 115, 136]. **Descriptive** [162, 219, 142]. **Descriptions** [226]. **Detailed** [175]. **Detection** [168]. **Determine** [75]. **Deterministic** [2, 201, 194, 229]. **Detour** [5]. **Development** [204]. **Diagnosability** [91]. **Diagnosis** [91, 220, 168]. **Diagnosis/prediction** [168]. **Diamond** [108]. **Different** [75]. **Digital** [13, 54, 119]. **Dimension** [87]. **dimensional** [233]. **Directed** [177, 24]. **Dischargeable** [82]. **Discovering** [57]. **Discovery** [17]. **Discrete** [92, 168]. **Discrete-event** [168]. **Disease** [75]. **Disjunctive** [39]. **Dissimilar** [75]. **Distributed** [123, 116, 175]. **Domains** [131]. **Domination** [39, 214, 41, 213]. **Downward** [248]. **Dynamic** [59, 98, 35, 36]. **Dynamical** [192, 146]. **Dynkin** [198, 215].

**early** [218]. **Edge** [38, 180, 25]. **EEG** [74]. **Effect** [122]. **Efficiency** [123]. **Efficient** [87, 17, 9, 90, 179, 100]. **Element** [206]. **Elementary** [122]. **Elements** [128]. **Elliptic** [200]. **Embedding** [97, 142]. **Emergency** [192]. **Emerging** [222]. **Emission** [11]. **Encoding** [127]. **Energy** [202]. **Ensemble** [126, 70]. **Entries** [46]. **environments** [238]. **Epileptic** [74]. **Epistemic** [224]. **Equal** [46]. **Equations** [88]. **Equivalence** [31]. **Essay** [15]. **Essential**

[64]. **Estimation** [7, 11]. **Euler** [2]. **Evaluations** [45]. **Event** [123, 168]. **Events** [193]. **Evolving** [114]. **Exact** [177]. **Exceptions** [79]. **exhaustions** [184]. **Experimental** [51]. **Exploration** [59]. **Exploring** [9]. **Expressions** [216, 124]. **Expressive** [194]. **Extensions** [122, 199]. **Extra** [72].

**Face** [45]. **factor** [234]. **Factorization** [2]. **Factors** [153]. **Fair** [107]. **Faithful** [69]. **Falsity** [227]. **Fault** [52, 5, 168, 172]. **Fault-Tolerant** [52]. **Feature** [175]. **Features** [157]. **Field** [206, 12]. **Finding** [242, 40]. **Finite** [49, 150, 63, 197, 110, 219, 48]. **Finite-State** [219]. **Finitely** [227]. **Finitely-many** [227]. **Finiteness** [187]. **First** [160]. **First-order** [160]. **Fixed** [49]. **Fixpoint** [102]. **Flash** [26]. **Flash-Aware** [26]. **Flexible** [61]. **Flight** [171]. **Flow** [233]. **Forcing** [180]. **Formal** [94, 131]. **Forms** [198, 215, 100]. **Foundations** [204]. **Fractional** [234]. **Fragments** [156]. **Framework** [82, 95, 7, 198]. **Free** [223, 134, 184, 165, 178, 91]. **Free-choice** [184, 165]. **Freeness** [135]. **Frozen** [107]. **Full** [211]. **Function** [2, 183]. **Functional** [10]. **Functions** [24, 68, 200, 182].

**Games** [225, 210]. **Gathering** [232]. **Gaussian** [76]. **Gene** [127]. **General** [112]. **Generalization** [227, 234]. **Generalized** [88, 125, 120]. **Generation** [217, 146]. **Generative** [143]. **Generator** [244]. **Generators** [100]. **Geometrically** [203]. **Geometrically-Modeled** [203]. **Getting** [212]. **Global** [206]. **Graders** [15]. **Grading** [15]. **Gram** [198]. **Grammars** [164, 162, 134, 3, 142, 143]. **Granular** [126, 176]. **Granulation** [173]. **Graph** [108, 87, 198]. **Graph-theoretic** [87]. **Graphs** [38, 109, 45, 133, 177, 39, 242, 24, 230, 91, 214, 179, 5, 234]. **green** [163]. **Grey** [13]. **Grid** [232]. **Grids** [72]. **Grouping** [15]. **Groups** [75]. **Growth** [66].

**Hamiltonian** [242]. **Handling** [35]. **Hardness** [202]. **Hardware** [30]. **Hardware-software** [30]. **Hashing** [175]. **Haskell** [94]. **Hennessy** [33]. **Heuristic** [53]. **Heuristic-based** [53]. **High** [200]. **High-degree** [200]. **Higher** [102, 24, 216]. **Higher-Order** [102, 24]. **Hitting** [207]. **Hoare** [132]. **Home** [165]. **Homeomorphic** [97]. **Hospital** [176]. **Human** [43]. **Human-aware** [43]. **Hybrid** [27]. **Hypercube** [220]. **Hypercube-like** [220]. **Hypercubes** [25].

**ID** [234]. **ID-factor-critical** [234]. **Identifying** [74]. **Images** [7, 13]. **Immediate** [249]. **Implementations** [35]. **Improved** [115, 162]. **Improvement** [15]. **Improving** [16]. **Impure** [238]. **Incomplete** [120]. **Independent** [71, 178]. **Index** [10, 130]. **Indiscernibility** [130]. **Induced** [179]. **Inductive** [87]. **Infeasible** [89, 19]. **Inference** [110]. **Inferring** [193]. **Infinite** [232, 225, 194, 130]. **Information** [16, 173, 176]. **Insecure** [246]. **Insertion** [140, 3]. **Integer** [2]. **Interference** [155]. **Interior** [89, 19]. **Interior-point** [89, 19]. **International** [228]. **Interpolation** [9].

**Intersection** [166]. **Interval** [163, 92]. **Interval-valued** [163].  
**Introduction** [236]. **Invariance** [8]. **Invariants** [240, 215]. **Inverse** [183].  
**Investigating** [188]. **Irregular** [133]. **Irregularity** [38]. **issue** [42]. **Issues**  
[243, 239, 238]. **Iterated** [219].

**Jacobi** [166]. **Joint** [7, 11]. **Jordan** [119]. **Jump** [92]. **Justifications** [35].

**Kernel** [217]. **KNN** [174]. **Knowledge** [157].

**Labeling** [61]. **Labelled** [3]. **Lambda** [100]. **Landscape** [222]. **Language**  
[153, 201]. **Languages** [157, 98, 63, 151, 139, 3, 130, 143, 144]. **Large** [87, 17].  
**Launcher** [171]. **Learning** [90]. **Length** [206, 150]. **Let** [216]. **Letter** [65].  
**Letter-to-Letter** [65]. **level** [117]. **Lexicographic** [79, 214]. **like** [220].  
**Likelihood** [7]. **Limited** [12]. **Limited-angle** [12]. **Linear**  
[149, 46, 89, 118, 183]. **Link** [17, 41, 181]. **Liveness** [249]. **Load** [118]. **Local**  
[211, 45, 220, 195]. **Locality** [175]. **Locally** [139]. **Locating** [40].  
**Logarithm** [92]. **Logic** [224, 132, 102, 33, 83, 115, 49, 32, 99, 37, 78, 81, 160].  
**Logical** [35, 151]. **Logics** [31, 227, 229]. **Loss** [174]. **Lower** [86]. **Lowest**  
[22]. **lpopt** [96]. **LR** [46]. **LR-tableaux** [46]. **Lucent** [184, 165].

**Machine** [90]. **Machines** [163]. **Magnetic** [7]. **Many** [31, 229, 32, 227].  
**Many-sorted** [32]. **Many-valued** [31, 229]. **Mapping** [61]. **Matching**  
[230, 179, 216]. **Mathematicians** [228]. **Matrices** [18, 149, 21, 167, 135].  
**Matrix** [47, 48, 135]. **Matroids** [136]. **Maximum** [7, 179]. **Means** [87, 20].  
**Mechanisms** [164]. **Meeting** [232]. **Membranes** [178]. **memoir** [228].  
**Memory** [247, 244]. **Mereological** [4]. **Merging** [247]. **Message** [111].  
**Meta** [245]. **Meta-Search** [245]. **Metalogic** [157]. **Method**  
[19, 48, 92, 168]. **Methods** [75, 41]. **Metric** [49]. **Metrics** [245]. **Micro**  
[228]. **Micro-memoir** [228]. **Milner** [33]. **MILP** [52]. **Minimal**  
[159, 110, 48]. **Minimisation** [202]. **Minimization** [11]. **Minimum**  
[40, 181]. **Mining** [74, 75, 176]. **Mission** [52]. **Modal** [31, 32]. **Model**  
[80, 237, 126, 102, 61, 116, 203, 91, 220, 30, 196]. **Model-Checking**  
[102, 196]. **Modeled** [203]. **Models** [192, 117, 170, 86, 195, 140, 200].  
**Modulo** [97, 128]. **Monadic** [226]. **Mood** [76]. **Morphisms** [208, 23].  
**Motion** [7, 64]. **Moves** [145]. **Multi** [59, 117, 105]. **Multi-agent** [59].  
**Multi-Buffer** [105]. **Multi-level** [117]. **Multiagent** [42]. **Multicore** [118].  
**Multicounter** [159]. **Multigranular** [67]. **Multilinear** [86]. **Multipartite**  
[109]. **Multiset** [201]. **Music** [76].

**negative** [198, 215]. **Neighborhood** [89, 19]. **Neighbourhood** [55]. **Net**  
[60, 186, 239]. **Nets**  
[192, 237, 205, 62, 238, 188, 240, 187, 194, 145, 249, 189, 190, 184, 57, 165].  
**Network** [1, 10, 70]. **Networks** [127, 133, 52, 66, 220, 161, 180, 41].  
**Nilpotent** [46]. **no** [72]. **Node** [71]. **Node-Independent** [71]. **Nodes**

[232, 52]. **Nominal** [216]. **Non** [194, 198, 215, 155, 195, 229, 72, 134, 142, 201]. **Non-Context-Free** [134]. **Non-Deterministic** [201, 194, 229]. **Non-Interference** [155]. **Non-local** [195]. **Non-negative** [198, 215]. **Non-Self-Embedding** [142]. **Non-unary** [72]. **Nondeterministic** [110, 219]. **Nonmonotonic** [78]. **Nonregular** [63]. **norm** [19]. **Normal** [100]. **Note** [229, 234]. **Novel** [126]. **NTRU** [88]. **Number** [217, 39, 213, 112, 5, 233]. **Numerical** [68]. **NZ** [149].

**Obituary** [231]. **Object** [57]. **Object-centric** [57]. **Obligations** [82]. **Observation** [249]. **OMT** [52]. **Once** [207]. **One** [108, 19, 134, 233]. **One-dimensional** [233]. **One-norm** [19]. **One-Rule** [108]. **onto** [109]. **Ontologies** [79]. **Ontology** [16]. **Operations** [46]. **Operator** [119]. **Operators** [51, 46]. **Optimal** [109, 117, 52, 54]. **Optimization** [96, 89, 19, 70]. **Optimum** [80]. **Oracles** [2]. **Order** [97, 87, 102, 226, 24, 216, 19, 160]. **Order-** [87]. **Order-sorted** [97]. **Order-theoretic** [226]. **Organisms** [30]. **Oriented** [26, 60]. **Orthogonal** [21].

**P** [178, 68]. **Pairwise** [21]. **Palindromic** [208]. **Parallel** [110, 100]. **Parameter** [103, 9]. **Parameterized** [116, 240, 86]. **Parameters** [7]. **Parametric** [172, 171, 189, 29]. **Parikh** [18, 135]. **Parity** [47]. **Parkinson** [75]. **Partial** [55]. **Particle** [233]. **Passing** [111]. **Path** [109]. **Paths** [181]. **Patient** [54]. **Patients** [74, 75]. **Pattern** [74]. **PBW** [199]. **Perfect** [214]. **Periodic** [59]. **Permutation** [51, 179]. **Perpetual** [184]. **Persistent** [155]. **Personalised** [54]. **Perspective** [197]. **Petri** [192, 237, 205, 60, 62, 186, 239, 238, 188, 240, 187, 194, 249, 189, 190, 184, 57]. **Phase** [247, 12]. **Physical** [160]. **Piecewise** [192]. **Place** [238, 147]. **Place-environments** [238]. **Placements** [52]. **Plane** [45]. **Planning** [43]. **PMC** [91]. **point** [89, 19]. **Points** [203, 181]. **Polyadic** [32]. **Polygons** [181]. **Polyhedral** [237]. **Polynomial** [167, 207]. **Polynomial-Time** [207, 167]. **Polynomials** [230]. **Polyominoes** [146]. **Position** [112]. **Positive** [167]. **Positron** [11]. **Power** [222, 194, 219]. **Powers** [63]. **Practice** [204]. **Pre** [129]. **Pre-rough** [129]. **Precision** [120]. **Prediction** [202, 168]. **Predictor** [89]. **Predictor-corrector** [89]. **Preface** [42, 221, 14, 6, 235, 154, 185, 158, 50, 113, 34, 73, 101, 93, 137, 191, 169, 28, 77, 121, 148, 173, 56]. **Preserving** [94, 208, 246]. **Primitive** [149]. **Prisms** [112]. **Privacy** [246]. **Probabilistic** [236, 117, 106]. **Probabilities** [106]. **Problem** [178, 44, 179, 53, 92, 135]. **Problems** [51, 189, 55]. **Process** [132, 61, 76, 170, 195, 176]. **Processing** [123]. **Processors** [118]. **Product** [109, 214]. **Production** [134]. **Products** [186]. **Programming** [96, 99, 78, 81]. **Programs** [103, 111, 207]. **Progression** [75]. **Projection** [8]. **Projections** [21]. **Proof** [184, 218]. **Properties** [63, 241, 182]. **Property** [4]. **Propositional** [49]. **Protocol** [27]. **Protocols** [116, 246]. **Proving** [86]. **Pseudo** [52]. **Pseudo-Boolean** [52]. **Pure** [114, 238]. **Pushdown** [138]. **Pythagoras** [206].

**Quantitative** [124]. **Quantum** [53]. **Quasi** [167]. **Quasi-Cartan** [167]. **Query** [181, 201]. **Query-Points** [181]. **Questions** [140]. **Queue** [138]. **Queues** [193].

**Random** [217, 126]. **Randomized** [53]. **Ranges** [49]. **Rank** [24]. **Reachability** [37]. **Reaction** [127, 64]. **Reactivity** [171]. **Read** [207]. **Read-Once** [207]. **Real** [243, 103, 159]. **Real-Time** [103, 159]. **Reasoner** [115]. **Reasoning** [123, 33, 83, 79]. **Recognizing** [133, 63]. **Reconstruction** [12]. **Rectangular** [72]. **Recursive** [84, 102, 187, 216]. **Red** [163]. **Reduction** [108]. **Refinement** [117, 103]. **Reflections** [126]. **Reflexive** [78]. **Region** [195]. **Regression** [76]. **Regular** [63, 151, 124]. **Regularity** [226]. **Regularized** [9]. **Regulatory** [127]. **Related** [38, 140]. **Relations** [164, 31, 72, 69, 130]. **Relaxation** [61]. **Relay** [52]. **rendezvous** [149]. **Repair** [195]. **Replay** [111]. **Representation** [157]. **Residual** [41]. **Residuated** [129]. **resolution** [7]. **Resonance** [7]. **Resource** [94]. **Resources** [193]. **Respect** [119]. **Restarting** [141, 144]. **Restricted** [238, 92]. **Results** [13, 162]. **Retraction** [35]. **Reversibility** [188]. **Reversible** [151, 111]. **Reversing** [205]. **Rewrite** [37]. **Rewriting** [108]. **Richness** [208]. **Right** [199]. **Robust** [11]. **Roman** [214]. **Roots** [63]. **Rough** [175, 125, 67, 120, 130, 136, 23, 129]. **Rule** [108, 96, 74]. **Rules** [114, 35, 22].

**S4F** [78]. **Safe** [248]. **Safety** [33]. **Satisfaction** [55]. **Scalable** [173]. **Scale** [13, 17, 8]. **Scattered** [134]. **Schedulability** [171]. **Scheduling** [94, 118]. **Schemes** [248]. **Science** [173]. **Search** [80, 245, 53]. **Second** [226, 19]. **Second-order** [226, 19]. **Selection** [175, 8, 143, 70]. **Selective** [99]. **Self** [209, 138, 244, 142]. **Self-stabilisation** [209]. **Self-test** [244]. **Self-Verifying** [138]. **Semantics** [145, 111]. **Semi** [162]. **Semi-Conditional** [162]. **Semigroups** [204, 135]. **Sensitive** [175]. **Separating** [153]. **Sequence** [244]. **Sequential** [164, 100]. **Services** [83]. **Set** [96, 83, 156, 115, 175, 178, 207, 78, 22, 136, 23]. **Set-based** [115]. **Set-theoretic** [83]. **Sets** [149, 114, 67, 120, 107]. **Setting** [132]. **Shared** [193]. **Short** [16]. **Shortest** [150]. **Shuffling** [65]. **Sided** [139]. **Signatures** [74]. **Silent** [145]. **Silico** [54]. **Similar** [15]. **Similarities** [17]. **Simple** [162, 90, 181]. **Simplify** [147]. **Simply** [100]. **Simply-Typed** [100]. **Simson** [231]. **Simulation** [7, 105, 163]. **Singleton** [55]. **Singular** [128]. **Size** [159, 86]. **Skeleton** [241]. **Skeptical** [79]. **Skew** [199, 167]. **Skew-symmetrizable** [167]. **Slicing** [98]. **Small** [213, 68]. **SMT** [237]. **SMT-Based** [237]. **Social** [10, 70]. **software** [30]. **Solution** [178]. **Solve** [27]. **Solver** [40]. **Solvers** [52]. **Solving** [225, 44, 118]. **Some** [223, 239, 125]. **sorted** [97, 32]. **Soundness** [170]. **Space** [225, 17, 21, 9, 48]. **Spaces** [4]. **Spanning** [71, 210]. **Special** [42]. **Squares** [206, 128]. **stabilisation** [209]. **Stable** [80]. **State** [195, 219, 168]. **State-Based** [195]. **Static** [36, 118]. **Steps** [188]. **Stochastic** [155, 124]. **Stop** [62]. **Stop-transitions** [62].

**Storage** [88, 26]. **Strategies** [53]. **Strategy** [11]. **Streaming** [104].  
**Strength** [38]. **Strictly** [139]. **String** [108, 104, 17]. **Strings** [58, 150].  
**Strong** [198]. **Structural** [117, 249, 196]. **Structure** [222, 202, 67].  
**Structured** [76]. **Structures** [122, 210, 129]. **Stubborn** [107]. **Study**  
[7, 175, 125]. **Subdivision** [39]. **Subgraphs** [108]. **Subregular** [143].  
**Substitution** [65]. **Sum** [206]. **Super** [7]. **Super-resolution** [7]. **Surfaces**  
[119]. **Symbolic** [95, 196]. **Symbols** [141]. **Symmetric** [19].  
**symmetrizable** [167]. **Syntactic** [224]. **Synthesis**  
[95, 117, 60, 103, 186, 239, 238, 29, 190]. **System** [108, 171, 64, 146, 176].  
**Systems** [236, 42, 59, 127, 186, 193, 178, 68, 140, 118, 29, 168]. **Szillard** [3].

**tableaux** [46]. **Tables** [120]. **Tail** [102]. **Tail-Recursive** [102]. **Target** [60].  
**Target-oriented** [60]. **Tasks** [59]. **Taxonomy** [156, 141]. **Team** [44].  
**TEAMAS** [42]. **Teams** [42]. **Technique** [175]. **Techniques** [1, 239].  
**Temporal** [241]. **Tensor** [90]. **Termination** [187]. **Terms** [100]. **test** [244].  
**Testable** [139]. **Testing** [107, 182]. **Text** [16]. **their** [88, 186, 200]. **Theorem**  
[184]. **theoretic** [87, 83, 226]. **Theoretical** [198]. **Theories** [37]. **Theory**  
[243, 84, 156, 35, 195, 204, 23]. **There** [212]. **Threshold** [127]. **Thresholds**  
[68]. **Tilings** [209]. **Time** [103, 149, 159, 178, 17, 189, 207, 183, 167].  
**Time-free** [178]. **Timed** [59, 106]. **Tolerant** [52]. **Tomographic** [12].  
**Tomography** [9, 8, 11]. **Tool** [96, 81]. **Topological** [105, 48]. **Topology**  
[69]. **Total** [39]. **Totient** [2]. **Trace** [103]. **Transducers** [104, 219].  
**Transition** [186]. **transitions** [62]. **Translation** [94]. **Transtopic** [10].  
**Transversal** [136]. **Trapezoid** [179]. **Treatment** [54]. **Tree** [197]. **Trees**  
[172, 109, 211, 71, 226]. **Trials** [54]. **Triangular** [118]. **Triangulated** [133].  
**Tubular** [85]. **Turing** [163]. **Tutte** [230]. **Twins** [54]. **Twisted** [166]. **Two**  
[150, 139]. **Two-Sided** [139]. **Two-way** [150]. **Type** [198, 215]. **Typed** [100].

**Unambiguous** [194]. **unary** [72]. **Uncertainty** [203]. **Unification** [99, 216].  
**Unified** [168]. **Uniform** [219]. **Unifying** [78]. **Uniqueness** [13]. **Unit**  
[198, 215]. **Universal** [68, 244, 241]. **Unobserved** [193]. **Unsatisfiable** [80].  
**Uses** [246]. **Using** [87, 132, 195, 40, 8, 184, 61, 103, 16, 178, 17].

**Valued** [227, 31, 229, 163]. **Variable** [170, 120]. **Variable-to-Variable** [170].  
**Verification** [95, 1, 103, 116, 170, 29, 124]. **Verifying** [138]. **Vertex** [211].  
**Vertices** [147]. **via** [116, 233]. **Vicinity** [129]. **Virtual** [30]. **Visibility**  
[133, 181].

**Walker** [210]. **way** [150]. **Weighted** [144]. **Wheel** [38]. **wide** [19]. **Width**  
[207]. **Wirelength** [109]. **Wireless** [52]. **without** [141]. **Word** [65]. **Words**  
[194, 153].



## References

**Brodo:2020:VTN**

- [1] Linda Brodo and Carlos Olarte. Verification techniques for a network algebra. *Fundamenta Informaticae*, 172(1):1–38, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Hittmeir:2020:DIF**

- [2] Markus Hittmeir and Jacek Pomykala. Deterministic integer factorization with oracles for Euler’s totient function. *Fundamenta Informaticae*, 172(1):39–51, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Paul:2020:SLL**

- [3] Prithwineel Paul. On Szilard languages of labelled insertion grammars. *Fundamenta Informaticae*, 172(1):53–72, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Polkowski:2020:CPM**

- [4] Lech Polkowski. On the compactness property of mereological spaces. *Fundamenta Informaticae*, 172(1):73–95, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Raghu:2020:DNF**

- [5] T. Venkata Raghu, R. Sundara Rajan, A. Ramesh Babu, and S. Anil. Detour number of 1-fault connected graphs. *Fundamenta Informaticae*, 172(1):97–104, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Brunetti:2020:P**

- [6] Sara Brunetti, Paolo Dulio, Andrea Frosini, and Grzegorz Rozenberg. Preface. *Fundamenta Informaticae*, 172(2):i–xi, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Beirinckx:2020:JML**

- [7] Quinten Beirinckx, Gabriel Ramos-Llordén, Ben Jeurissen, Dirk H. J. Poot, Paul M. Parizel, Marleen Verhoye, Jan Sijbers, and Arnold J. den Dekker. Joint maximum likelihood estimation of motion and  $T_1$  parameters from magnetic resonance images in a super-resolution framework: a simulation study. *Fundamenta Informaticae*, 172(2):105–128, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Leko:2020:SIP**

- [8] Gábor Lékó and Péter Balázs. Scale invariance in projection selection using binary tomography. *Fundamenta Informaticae*, 172(2):129–142, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lagerwerf:2020:EIA**

- [9] Marinus J. Lagerwerf, Willem Jan Palenstijn, Folkert Bleichrodt, and K. Joost Batenburg. An efficient interpolation approach for exploring the parameter space of regularized tomography algorithms. *Fundamenta Informaticae*, 172(2):143–167, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Menegaz:2020:CFB**

- [10] Gloria Menegaz, Claudio Tomazzoli, Matteo Cristani, Ilaria Boscolo Galazzo, and Silvia Francesca Storti. Characterising functional brain connectivity as social network: the transtopic centrality index. *Fundamenta Informaticae*, 172(2):169–186, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Presotto:2020:MSR**

- [11] Luca Presotto. A  $L_1$  minimization strategy for robust joint activity and attenuation estimation in positron emission tomography. *Fundamenta Informaticae*, 172(2):187–202, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Turpin:2020:PFA**

- [12] Léonard Turpin, Stéphane Roux, Olivier Caty, and Sébastien Denneulin. A phase field approach to limited-angle tomographic reconstruction. *Fundamenta Informaticae*, 172(2):203–219, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Brunetti:2020:URG**

- [13] Sara Brunetti, Paolo Dulio, and Carla Peri. Uniqueness results for grey scale digital images. *Fundamenta Informaticae*, 172(2):221–238, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Badica:2020:P**

- [14] Costin Badica, Mirjana Ivanovic, Yannis Manolopoulos, Riccardo Rosati, and Paolo Torroni. Preface. *Fundamenta Informaticae*, 172(3):i–ii, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zupanc:2020:IAE**

- [15] Kaja Zupanc and Zoran Bosnić. Improvement of automated essay grading by grouping similar graders. *Fundamenta Informaticae*, 172(3):239–259, ??? 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Flisar:2020:IST**

- [16] Jernej Flisar and Vili Podgorelec. Improving short text classification using information from DBpedia ontology. *Fundamenta Informaticae*, 172(3):261–297, ??? 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Karampelas:2020:TSE**

- [17] Andreas Karampelas and George A. Vouros. Time and space efficient large scale link discovery using string similarities. *Fundamenta Informaticae*, 172(3):299–325, ??? 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Bera:2020:CPM**

- [18] Somnath Bera and Kalpana Mahalingam. On commuting Parikh  $q$ -matrices. *Fundamenta Informaticae*, 172(4):327–341, ??? 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kheirfam:2020:SOC**

- [19] Behrouz Kheirfam. A second-order corrector infeasible interior-point method with one-norm wide neighborhood for symmetric optimization. *Fundamenta Informaticae*, 172(4):343–359, ??? 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kłopotek:2020:CMA**

- [20] Mieczysław A. Kłopotek. On the consistency of  $k$ -means++ algorithm. *Fundamenta Informaticae*, 172(4):361–377, ??? 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Koczkodaj:2020:OPS**

- [21] Waldemar W. Koczkodaj, Ryszard Smarzewski, and Jacek Szybowski. On orthogonal projections on the space of consistent pairwise comparisons matrices. *Fundamenta Informaticae*, 172(4):379–397, ??? 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Tzacheva:2020:ARL**

- [22] Angelina A. Tzacheva, Ramya A. Shankar, Sridharan Ramachandran, and Arunkumar Bagavathi. Action rules of lowest cost and action set correlations. *Fundamenta Informaticae*, 172(4):399–412, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zheng:2020:MBR**

- [23] Tingting Zheng. Morphisms in binary rough set theory. *Fundamenta Informaticae*, 172(4):413–434, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kashiwabara:2020:HOR**

- [24] Kenji Kashiwabara, Ikumi Horie, and Kazunori Yamaguchi. Higher-order rank functions on directed graphs. *Fundamenta Informaticae*, 173(1):1–31, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lin:2020:CCC**

- [25] Cheng-Kuan Lin, Liang Ma, Jianxi Fan, Lih-Hsing Hsu, and Yuan-Hsiang Teng. The conditional- $(g, d, k)$ -connectivity and conditional- $(g, d, k)$ -edge-connectivity on the hypercubes. *Fundamenta Informaticae*, 173(1):33–45, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Macyna:2020:FAS**

- [26] Wojciech Macyna and Michal Kukowski. Flash-aware storage of the column oriented databases. *Fundamenta Informaticae*, 173(1):47–72, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Tioura:2020:HPS**

- [27] Abdelhamid Tioura, Hamouma Moumen, Hamoudi Kalla, and Ahmed Ait Saidi. A hybrid protocol to solve authenticated Byzantine consensus. *Fundamenta Informaticae*, 173(1):73–89, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kleijn:2020:P**

- [28] Jetty Kleijn, Laurențiu Leuștean, and Dorel Lucanu. Preface. *Fundamenta Informaticae*, 173(2–3):i–ii, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Sofronie-Stokkermans:2020:PSV**

- [29] Viorica Sofronie-Stokkermans. Parametric systems: Verification and synthesis. *Fundamenta Informaticae*, 173(2–3):91–138, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Paduraru:2020:AVO**

- [30] Ciprian Ionut Paduraru and Gheorghe Stefanescu. Adaptive virtual organisms: A compositional model for complex hardware-software binding. *Fundamenta Informaticae*, 173(2–3):139–176, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Diaconescu:2020:MEB**

- [31] Denisa Diaconescu. Modal equivalence and bisimilarity in many-valued modal logics with many-valued accessibility relations. *Fundamenta Informaticae*, 173(2–3):177–189, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Leustean:2020:MSP**

- [32] Ioana Leuştean, Natalia Moangă, and Traian Florin Şerbănuţă. A many-sorted polyadic modal logic. *Fundamenta Informaticae*, 173(2–3):191–215, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Caltais:2020:CRS**

- [33] Georgiana Caltais, Mohammad Reza Mousavi, and Hargurbir Singh. Causal reasoning for safety in Hennessy Milner logic. *Fundamenta Informaticae*, 173(2–3):217–251, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Fioravanti:2020:P**

- [34] Fabio Fioravanti, John P. Gallagher, and Maurizio Proietti. Preface. *Fundamenta Informaticae*, 173(4):i–ii, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Fruhworth:2020:JCH**

- [35] Thom Frühwirth. Justifications in constraint handling rules for logical retraction in dynamic algorithms: Theory, implementations, and complexity. *Fundamenta Informaticae*, 173(4):253–283, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Hanus:2020:CSD**

- [36] Michael Hanus. Combining static and dynamic contract checking for Curry. *Fundamenta Informaticae*, 173(4):285–314, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Skeirik:2020:CBR**

- [37] Stephen Skeirik, Andrei Stefanescu, and José Meseguer. A constructor-based reachability logic for rewrite theories. *Fundamenta Informaticae*, 173(4):315–382, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Ahmad:2020:CEI**

- [38] Ali Ahmad, Muhammad Ahsan Asim, Basem Assiri, and Andrea Semaničová-Feňovčíková. Computing the edge irregularity strength of bipartite graphs and wheel related graphs. *Fundamenta Informaticae*, 174(1):1–13, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Ciftci:2020:DTD**

- [39] Canan Çiftçi and Vecdi Aytaç. Disjunctive total domination subdivision number of graphs. *Fundamenta Informaticae*, 174(1):15–26, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Konishi:2020:FML**

- [40] Tatsuya Konishi, Hideharu Kojima, Hiroyuki Nakagawa, and Tatsuhiko Tsuchiya. Finding minimum locating arrays using a CSP solver. *Fundamenta Informaticae*, 174(1):27–42, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Turaci:2020:CML**

- [41] Tufan Turacı. On combining the methods of link residual and domination in networks. *Fundamenta Informaticae*, 174(1):43–59, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Andrejczuk:2020:SIT**

- [42] Ewa Andrejczuk, Juan M. Alberola, Leandro Marcolino, and Paolo Torroni. Special issue of teams in multiagent systems (TEAMAS): Preface. *Fundamenta Informaticae*, 174(1):61–62, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Andres:2020:HAC**

- [43] Ignasi Andrés, Leliane Nunes de Barros, and Karina Valdivia Delgado. Human-aware contingent planning. *Fundamenta Informaticae*, 174(1):63–81, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Manya:2020:STC**

- [44] Felip Manyà, Santiago Negrete, Carme Roig, and Joan Ramon Soler. Solving the team composition problem in a classroom. *Fundamenta Informaticae*, 174(1):83–101, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Bong:2020:LFA**

- [45] Novi Bong, Martin Bača, Andrea Semaničová-Feňovčíková, Kiki A. Sugeng, and Tao-Ming Wang. Local face antimagic evaluations and coloring of plane graphs. *Fundamenta Informaticae*, 174(2):103–119, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kaniecki:2020:CAB**

- [46] Mariusz Kaniecki and Justyna Kosakowska. Combinatorial algorithms for binary operations on LR-tableaux with entries equal to 1 with applications to nilpotent linear operators. *Fundamenta Informaticae*, 174(2):121–136, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Keshavarzian:2020:BCB**

- [47] Nazanin Keshavarzian, Arsham Borumand Saeid, and Abolfazl Tehranian. BCK-codes based on a parity check matrix. *Fundamenta Informaticae*, 174(2):137–165, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lin:2020:MBF**

- [48] Yidong Lin, Jinjin Li, Liangxue Peng, and Ziqin Feng. Minimal base for finite topological space by matrix method. *Fundamenta Informaticae*, 174(2):167–183, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Djordjevic:2020:PML**

- [49] Radosav Djordjević, Nebojša Ikinović, and Nenad Stojanović. A propositional metric logic with fixed finite ranges. *Fundamenta Informaticae*, 174(2):185–199, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Eiter:2020:P**

- [50] Thomas Eiter, Marco Maratea, and Mauro Vallati. Preface. *Fundamenta Informaticae*, 174(3–4):i–iii, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Baiocchi:2020:ECA**

- [51] Marco Baiocchi, Gabriele Di Bari, Alfredo Milani, and Valentino Santucci. An experimental comparison of algebraic crossover operators for permutation problems. *Fundamenta Informaticae*, 174(3–4):201–228, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Chen:2020:MPB**

- [52] Qian Matteo Chen, Alberto Finzi, Toni Mancini, Igor Melatti, and Enrico Tronci. MILP, pseudo-Boolean, and OMT solvers for optimal fault-tolerant placements of relay nodes in mission critical wireless networks. *Fundamenta Informaticae*, 174(3–4):229–258, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Oddi:2020:AHB**

- [53] Angelo Oddi and Riccardo Rasconi. Analyzing heuristic-based randomized search strategies for the quantum circuit compilation problem. *Fundamenta Informaticae*, 174(3–4):259–281, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Sinisi:2020:OPT**

- [54] Stefano Sinisi, Vadim Alimguzhin, Toni Mancini, Enrico Tronci, Federico Mari, and Brigitte Leeners. Optimal personalised treatment computation through in silico clinical trials on patient digital twins. *Fundamenta Informaticae*, 174(3–4):283–310, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Wallace:2020:PNS**

- [55] Richard J. Wallace. Partial (neighbourhood) singleton arc consistency for constraint satisfaction problems. *Fundamenta Informaticae*, 174(3–4):311–344, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**terBeek:2020:P**

- [56] Maurice ter Beek, Maciej Koutny, and Grzegorz Rozenberg. Preface. *Fundamenta Informaticae*, 175(1–4):v–viii, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).



**vanderAalst:2020:DOC**

- [57] Wil M. P. van der Aalst and Alessandro Berti. Discovering object-centric Petri nets. *Fundamenta Informaticae*, 175(1–4):1–40, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Alzamel:2020:CDS**

- [58] Mai Alzamel, Lorraine A. K. Ayad, Giulia Bernardini, Roberto Grossi, Costas S. Iliopoulos, Nadia Pisanti, Solon P. Pissis, and Giovanna Rosone. Comparing degenerate strings. *Fundamenta Informaticae*, 175(1–4):41–58, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Arcile:2020:DEM**

- [59] Johan Arcile, Raymond Devillers, and Hanna Klaudel. Dynamic exploration of multi-agent systems with periodic timed tasks. *Fundamenta Informaticae*, 175(1–4):59–95, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Best:2020:TOP**

- [60] Eike Best, Raymond Devillers, Evgeny Erofeev, and Harro Winkelmann. Target-oriented Petri net synthesis. *Fundamenta Informaticae*, 175(1–4):97–122, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Carmona:2020:FPM**

- [61] Josep Carmona, Lluís Padró, and Luis Delicado. Flexible process model mapping using relaxation labeling. *Fundamenta Informaticae*, 175(1–4):123–141, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Desel:2020:STP**

- [62] Jörg Desel and Marc Finthammer. Stop-transitions of Petri nets. *Fundamenta Informaticae*, 175(1–4):143–172, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Frei:2020:RPR**

- [63] Fabian Frei, Juraž Hromkovič, and Juhani Karhumäki. Roots and powers in regular languages: Recognizing nonregular properties by finite automata. *Fundamenta Informaticae*, 175(1–4):173–185, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Genova:2020:CEM**

- [64] Daniela Genova, Hendrik Jan Hoogeboom, and Nataša Jonoska. Companions and an essential motion of a reaction system. *Fundamenta Informaticae*, 175(1–4):187–199, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Halava:2020:SWL**

- [65] Vesa Halava, Tero Harju, and Esa Sahla. On shuffling a word with its letter-to-letter substitution. *Fundamenta Informaticae*, 175(1–4):201–206, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Dangalchev:2020:ACN**

- [66] Chavdar Dangalchev. Additional closeness and networks growth. *Fundamenta Informaticae*, 176(1):1–15, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Jarvinen:2020:SMR**

- [67] Jouni Järvinen and Sándor Radeleczki. The structure of multigranular rough sets. *Fundamenta Informaticae*, 176(1):17–41, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Liu:2020:SUN**

- [68] Liucheng Liu, Wenmei Yi, Qian Yang, Hong Peng, and Jun Wang. Small universal numerical P systems with thresholds for computing functions. *Fundamenta Informaticae*, 176(1):43–59, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Maschio:2020:TFC**

- [69] Samuele Maschio and Giovanni Sambin. Topology as faithful communication through relations. *Fundamenta Informaticae*, 176(1):61–78, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zhao:2020:SNO**

- [70] Chenyue Zhao, Hosein Alizadeh, Behrouz Minaei, Majid Mohamadpoor, Hamid Parvin, and Mohammad Reza Mahmoudi. Social network optimization for cluster ensemble selection. *Fundamenta Informaticae*, 176(1):79–102, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Cheng:2020:CNI**

- [71] Baolei Cheng, Jianxi Fan, Qiang Lyu, Cheng-Kuan Lin, Xiaoyan Li, and Guo Chen. Constructing node-independent spanning trees in augmented cubes. *Fundamenta Informaticae*, 176(2):103–128, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kopczyński:2020:ARG**

- [72] Eryk Kopczyński. Axiomatizing rectangular grids with no extra non-unary relations. *Fundamenta Informaticae*, 176(2):129–138, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Ghosh:2020:P**

- [73] Kuntal Ghosh and Sushmita Mitra. Preface. *Fundamenta Informaticae*, 176(2):139–140, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Dasgupta:2020:PRM**

- [74] Abhijit Dasgupta, Losiana Nayak, Ritankar Das, Debasis Basu, Preetam Chandra, and Rajat K. De. Pattern and rule mining for identifying signatures of epileptic patients from clinical EEG data. *Fundamenta Informaticae*, 176(2):141–166, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Przybyszewski:2020:CDD**

- [75] Andrzej W. Przybyszewski, Artur Chudzik, Stanislaw Szlufik, Piotr Habela, and Dariusz M. Kozirowski. Comparison of different data mining methods to determine disease progression in dissimilar groups of Parkinson’s patients. *Fundamenta Informaticae*, 176(2):167–181, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Chapaneri:2020:SGP**

- [76] Santosh Chapaneri and Deepak Jayaswal. Structured Gaussian process regression of music mood. *Fundamenta Informaticae*, 176(2):183–203, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Monica:2020:P**

- [77] Dario Della Monica, Aniello Murano, and Luigi Sauro. Preface. *Fundamenta Informaticae*, 176(3–4):i–ii, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Su:2020:UAN**

- [78] Ezgi Iraz Su. A unifying approach for nonmonotonic S4F, (reflexive) autoepistemic logic, and answer set programming. *Fundamenta Informaticae*, 176(3–4):205–234, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Giordano:2020:RAE**

- [79] Laura Giordano and Valentina Gliozzi. Reasoning about exceptions in ontologies: from the lexicographic closure to the skeptical closure. *Fundamenta Informaticae*, 176(3–4):235–269, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Alviano:2020:UCA**

- [80] Mario Alviano and Carmine Dodaro. Unsatisfiable core analysis and aggregates for optimum stable model search. *Fundamenta Informaticae*, 176(3–4):271–297, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Tarzariol:2020:TLP**

- [81] Alice Tarzariol, Eugenia Zanazzo, Agostino Dovier, and Alberto Policriti. Towards a logic programming tool for cancer data analysis. *Fundamenta Informaticae*, 176(3–4):299–319, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Alberti:2020:DOC**

- [82] Marco Alberti, Marco Gavanelli, Evelina Lamma, Fabrizio Riguzzi, Ken Satoh, and Riccardo Zese. Dischargeable obligations in the SCIFF framework. *Fundamenta Informaticae*, 176(3–4):321–348, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Cantone:2020:STA**

- [83] Domenico Cantone, Marianna Nicolosi-Asmundo, and Daniele Francesco Santamaria. A set-theoretic approach to reasoning services for the description logic  $\mathcal{DL}D4, \times$ . *Fundamenta Informaticae*, 176(3–4):349–384, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Borger:2020:BTR**

- [84] Egon Börger and Klaus-Dieter Schewe. A behavioural theory of recursive algorithms. *Fundamenta Informaticae*, 177(1):1–37, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Dowbor:2020:CCT**

- [85] Piotr Dowbor and Yan Kim. Computational classification of tubular algebras. *Fundamenta Informaticae*, 177(1):39–67, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Ghosal:2020:PPS**

- [86] Purnata Ghosal and B. V. Raghavendra Rao. On proving parameterized size lower bounds for multilinear algebraic models. *Fundamenta Informaticae*, 177(1):69–93, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Berghammer:2020:ECL**

- [87] Rudolf Berghammer, Henning Schnoor, and Michael Winter. Efficient computation of the large inductive dimension using order- and graph-theoretic means. *Fundamenta Informaticae*, 177(2):95–113, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Cho:2020:AGN**

- [88] Gook Hwa Cho, Seongan Lim, and Hyang-Sook Lee. Algorithms for the generalized NTRU equations and their storage analysis. *Fundamenta Informaticae*, 177(2):115–139, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kheirfam:2020:NPC**

- [89] Behrouz Kheirfam. A new predictor-corrector infeasible interior-point algorithm for linear optimization in a wide neighborhood. *Fundamenta Informaticae*, 177(2):141–156, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Laue:2020:SET**

- [90] Sören Laue, Matthias Mitterreiter, and Joachim Giesen. A simple and efficient tensor calculus for machine learning. *Fundamenta Informaticae*, 177(2):157–179, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lin:2020:DFG**

- [91] Cheng-Kuan Lin, Tzu-Liang Kung, Dajin Wang, and Yuan-Hsiang Teng. The diagnosability of  $(K_4-e)$ -free graphs under the PMC diagnosis model. *Fundamenta Informaticae*, 177(2):181–188, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Qi:2020:CID**

- [92] Bin Qi, Jie Ma, and Kewei Lv. Computing interval discrete logarithm problem with restricted jump method. *Fundamenta Informaticae*, 177(2):189–201, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Hermenegildo:2020:P**

- [93] Manuel Hermenegildo, Pedro López-García, Alberto Pettorossi, and Maurizio Proietti. Preface. *Fundamenta Informaticae*, 177(3–4):i–iii, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Albert:2020:FRC**

- [94] Elvira Albert, Nikolaos Bezirgiannis, Frank de Boer, and Enrique Martin-Martin. A formal, resource consumption-preserving translation from actors with cooperative scheduling to Haskell. *Fundamenta Informaticae*, 177(3–4):203–234, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Alpuente:2020:ACS**

- [95] María Alpuente, Daniel Pardo, and Alicia Villanueva. Abstract contract synthesis and verification in the symbolic **K** framework. *Fundamenta Informaticae*, 177(3–4):235–273, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Bichler:2020:LRO**

- [96] Manuel Bichler, Michael Morak, and Stefan Woltran. lpopt: A rule optimization tool for answer set programming. *Fundamenta Informaticae*, 177(3–4):275–296, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Alpuente:2020:OSH**

- [97] María Alpuente, Angel Cuenca-Ortega, Santiago Escobar, and José Meseguer. Order-sorted homeomorphic embedding modulo combinations of associativity and/or commutativity axioms. *Fundamenta Informaticae*, 177(3–4):297–329, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Falaschi:2020:DSC**

- [98] Moreno Falaschi, Maurizio Gabbrielli, Carlos Olarte, and Catuscia Palamidessi. Dynamic slicing for concurrent constraint languages. *Fundamenta Informaticae*, 177(3–4):331–357, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Mesnard:2020:SUC**

- [99] Fred Mesnard, Étienne Payet, and Germán Vidal. Selective unification in (constraint) logic programming. *Fundamenta Informaticae*, 177(3–4):359–383, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Tarau:2020:DES**

- [100] Paul Tarau. Deriving efficient sequential and parallel generators for closed simply-typed Lambda terms and normal forms. *Fundamenta Informaticae*, 177(3–4):385–415, 2020. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Hague:2021:P**

- [101] Matthew Hague and Igor Potapov. Preface. *Fundamenta Informaticae*, 178(1–2):v–vi, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Bruse:2021:CMC**

- [102] Florian Bruse, Martin Lange, and Etienne Lozes. The complexity of model-checking tail-recursive higher-order fixpoint logic. *Fundamenta Informaticae*, 178(1–2):1–30, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Cassez:2021:VPS**

- [103] Franck Cassez, Peter Gjøøl Jensen, and Kim Guldstrand Larsen. Verification and parameter synthesis for real-time programs using refinement of trace abstraction. *Fundamenta Informaticae*, 178(1–2):31–57, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Filiot:2021:CSS**

- [104] Emmanuel Filiot and Pierre-Alain Reynier. Copyful streaming string transducers. *Fundamenta Informaticae*, 178(1–2):59–76, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Hutagalung:2021:TCM**

- [105] Milka Hutagalung. Topological characterisation of multi-buffer simulation. *Fundamenta Informaticae*, 178(1–2):77–99, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Sproston:2021:PTA**

- [106] Jeremy Sproston. Probabilistic timed automata with clock-dependent probabilities. *Fundamenta Informaticae*, 178(1–2):101–138, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Valmari:2021:SSF**

- [107] Antti Valmari and Walter Vogler. Stubborn sets, frozen actions, and fair testing. *Fundamenta Informaticae*, 178(1–2):139–172, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Adinayev:2021:DSR**

- [108] Arthur Adinayev and Itamar Stein. Diamond subgraphs in the reduction graph of a one-rule string rewriting system. *Fundamenta Informaticae*, 178(3):173–185, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Arockiaraj:2021:OWB**

- [109] Micheal Arockiaraj, J. Nancy Delaila, and Jessie Abraham. Optimal wire-length of balanced complete multipartite graphs onto Cartesian product of path, cycle and trees. *Fundamenta Informaticae*, 178(3):187–202, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Jastrzab:2021:PAM**

- [110] Tomasz Jastrzab, Zbigniew J. Czech, and Wojciech Wieczorek. Parallel algorithms for minimal nondeterministic finite automata inference. *Fundamenta Informaticae*, 178(3):203–227, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lanese:2021:CCR**

- [111] Ivan Lanese, Adrián Palacios, and Germán Vidal. Causal-consistent replay reversible semantics for message passing concurrent programs. *Fundamenta Informaticae*, 178(3):229–266, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Neethu:2021:GPN**

- [112] P. K. Neethu, S. V. Ullas Chandran, Manoj Changat, and Sandi Klavžar. On the general position number of complementary prisms. *Fundamenta Informaticae*, 178(3):267–281, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).



**Felli:2021:P**

- [113] Paolo Felli, Marco Montali, and Maurizio Proietti. Preface. *Fundamenta Informaticae*, 178(4):i–ii, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Combi:2021:CSP**

- [114] Carlo Combi, Romeo Rizzi, and Pietro Sala. Checking sets of pure evolving association rules. *Fundamenta Informaticae*, 178(4):283–313, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Cantone:2021:ISB**

- [115] Domenico Cantone, Marianna Nicolosi-Asmundo, and Daniele Francesco Santamaria. An improved set-based reasoner for the description logic  $\mathcal{DL}D4, \times$ . *Fundamenta Informaticae*, 178(4):315–346, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Conchon:2021:DPV**

- [116] Sylvain Conchon, Giorgio Delzanno, and Angelo Ferrando. Declarative parameterized verification of distributed protocols via the cubicle model checker. *Fundamenta Informaticae*, 178(4):347–378, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Benouhiba:2021:MLR**

- [117] Toufik Benouhiba. A multi-level refinement approach for structural synthesis of optimal probabilistic models. *Fundamenta Informaticae*, 179(1):1–33, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Marrakchi:2021:SSL**

- [118] Sirine Marrakchi and Mohamed Jemni. Static scheduling with load balancing for solving triangular band linear systems on multicore processors. *Fundamenta Informaticae*, 179(1):35–58, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Slapal:2021:DJC**

- [119] Josef Šlapal. Digital Jordan curves and surfaces with respect to a closure operator. *Fundamenta Informaticae*, 179(1):59–74, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Syau:2021:VPG**

- [120] Yu-Ru Syau, Churn-Jung Liau, and En-Bing Lin. On variable precision generalized rough sets and incomplete decision tables. *Fundamenta Infor-*

*maticae*, 179(1):75–92, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Schlingloff:2021:P**

- [121] H. Schlingloff and W. Penczek. Preface. *Fundamenta Informaticae*, 179(2):i–ii, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Czaja:2021:EEC**

- [122] Ludwik Czaja. Extensions of elementary cause-effect structures. *Fundamenta Informaticae*, 179(2):93–111, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Akili:2021:RED**

- [123] Samira Akili and Matthias Weidlich. Reasoning on the efficiency of distributed complex event processing. *Fundamenta Informaticae*, 179(2):113–134, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Yaman:2021:QVS**

- [124] Sinem Getir Yaman, Esteban Pavese, and Lars Grunske. Quantitative verification of stochastic regular expressions. *Fundamenta Informaticae*, 179(2):135–163, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Grabowski:2021:ACS**

- [125] Adam Grabowski. Automated comparative study of some generalized rough approximations. *Fundamenta Informaticae*, 179(2):165–182, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Artiemjew:2021:NEM**

- [126] Piotr Artiemjew and Krzysztof Ropiak. A novel ensemble model — the random granular reflections. *Fundamenta Informaticae*, 179(2):183–203, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Barbuti:2021:ETB**

- [127] Roberto Barbuti, Pasquale Bove, Roberta Gori, Damas Gruska, Francesca Levi, and Paolo Milazzo. Encoding threshold Boolean networks into reaction systems for the analysis of gene regulatory networks. *Fundamenta Informaticae*, 179(2):205–225, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Koprowski:2021:CSE**

- [128] Przemysław Koprowski. Computing singular elements modulo squares. *Fundamenta Informaticae*, 179(3):227–238, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lin:2021:RAS**

- [129] Zhe Lin, Mihir Kumar Chakraborty, and Minghui Ma. Residuated algebraic structures in the vicinity of pre-rough algebra and decidability. *Fundamenta Informaticae*, 179(3):239–274, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Torres:2021:RAL**

- [130] Gabriela Martín Torres. On rough approximations of languages under infinite index indiscernibility relations. *Fundamenta Informaticae*, 179(3):275–293, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Wang:2021:CDF**

- [131] Longchun Wang, Lankun Guo, and Qingguo Li. Continuous domains in formal concept analysis. *Fundamenta Informaticae*, 179(3):295–319, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Bergstra:2021:UHL**

- [132] J. A. Bergstra and C. A. Middelburg. Using Hoare logic in a process algebra setting. *Fundamenta Informaticae*, 179(4):321–344, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Boomari:2021:RVG**

- [133] Hossein Boomari, Mojtaba Ostovari, and Alireza Zarei. Recognizing visibility graphs of triangulated irregular networks. *Fundamenta Informaticae*, 179(4):345–360, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Krivka:2021:SCG**

- [134] Zbyněk Krivka and Alexander Meduna. Scattered context grammars with one non-context-free production are computationally complete. *Fundamenta Informaticae*, 179(4):361–384, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Teh:2021:FPM**

- [135] Wen Chean Teh, Adrian Atanasiu, and Denis C. K. Wong. Freeness problem for matrix semigroups of Parikh matrices. *Fundamenta Informaticae*,

179(4):385–397, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Wang:2021:NDT**

- [136] Zhaohao Wang. A new description of transversal matroids through rough set approach. *Fundamenta Informaticae*, 179(4):399–416, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Hirvensalo:2021:P**

- [137] Mika Hirvensalo, František Mráz, and Daniel Pruša. Preface. *Fundamenta Informaticae*, 180(1–2):v–vi, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Fernau:2021:SVP**

- [138] Henning Fernau, Martin Kutrib, and Matthias Wendlandt. Self-verifying pushdown and queue automata. *Fundamenta Informaticae*, 180(1–2):1–28, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Holzer:2021:TSS**

- [139] Markus Holzer, Martin Kutrib, and Friedrich Otto. Two-sided strictly locally testable languages. *Fundamenta Informaticae*, 180(1–2):29–51, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Malcher:2021:DQI**

- [140] Andreas Malcher. Decidability questions for insertion systems and related models. *Fundamenta Informaticae*, 180(1–2):53–76, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Otto:2021:CTR**

- [141] Friedrich Otto. A complete taxonomy of restarting automata without auxiliary symbols. *Fundamenta Informaticae*, 180(1–2):77–101, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Pighizzini:2021:NSE**

- [142] Giovanni Pighizzini and Luca Prigioniero. Non-self-embedding grammars and descriptive complexity. *Fundamenta Informaticae*, 180(1–2):103–122, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Truthe:2021:GCC**

- [143] Bianca Truthe. Generative capacity of contextual grammars with sub-regular selection languages. *Fundamenta Informaticae*, 180(1–2):123–150,

???? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Wang:2021:LAW**

- [144] Qichao Wang. Languages accepted by weighted restarting automata. *Fundamenta Informaticae*, 180(1-2):151–177, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Gorrieri:2021:CSB**

- [145] Roberto Gorrieri. Causal semantics for BPP nets with silent moves. *Fundamenta Informaticae*, 180(3):179–249, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Massazza:2021:DSA**

- [146] Paolo Massazza. A dynamical system approach to polyominoes generation. *Fundamenta Informaticae*, 180(3):251–273, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Rudi:2021:PVA**

- [147] Ali Gholami Rudi. Place the vertices anywhere on the curve and simplify. *Fundamenta Informaticae*, 180(3):275–287, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Skrzypczak:2021:P**

- [148] Michał Skrzypczak and Piotr Hofman. Preface. *Fundamenta Informaticae*, 180(4):i–ii, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Catalano:2021:LBR**

- [149] Costanza Catalano, Umer Azfar, Ludovic Charlier, and Raphaël M. Jungers. A linear bound on the  $k$ -rendezvous time for primitive sets of NZ matrices. *Fundamenta Informaticae*, 180(4):289–314, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Dobronravov:2021:LSS**

- [150] Egor Dobronravov, Nikita Dobronravov, and Alexander Okhotin. On the length of shortest strings accepted by two-way finite automata. *Fundamenta Informaticae*, 180(4):315–331, ??? 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Gastin:2021:RRL**

- [151] Paul Gastin, Amaldev Manuel, and R. Govind. Reversible regular languages: Logical and algebraic characterisations. *Fundamenta Informat-*

*icae*, 180(4):333–350, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kuperberg:2021:CAB**

- [152] Denis Kuperberg, Laureline Pinault, and Damien Pous. Coinductive algorithms for Büchi automata. *Fundamenta Informaticae*, 180(4):351–373, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Saarela:2021:SWL**

- [153] Aleksi Saarela. Separating the words of a language by counting factors. *Fundamenta Informaticae*, 180(4):375–393, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Casagrande:2021:P**

- [154] Alberto Casagrande, Eugenio G. Omodeo, and Maurizio Proietti. Preface. *Fundamenta Informaticae*, 181(1):v–vi, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Hillston:2021:PSN**

- [155] Jane Hillston, Andrea Marin, Carla Piazza, and Sabina Rossi. Persistent stochastic non-interference. *Fundamenta Informaticae*, 181(1):1–35, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Cantone:2021:CAD**

- [156] Domenico Cantone, Andrea De Domenico, Pietro Maugeri, and Eugenio G. Omodeo. Complexity assessments for decidable fragments of set theory. I: A taxonomy for the Boolean case. *Fundamenta Informaticae*, 181(1):37–69, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Costantini:2021:AMF**

- [157] Stefania Costantini and Andrea Formisano. Adding metalogic features to knowledge representation languages. *Fundamenta Informaticae*, 181(1):71–98, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Durand-Lose:2021:P**

- [158] Jérôme Durand-Lose, Jarkko Kari, and Sergey Verlan. Preface. *Fundamenta Informaticae*, 181(2–3):i–iii, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Geffert:2021:MSC**

- [159] Viliam Geffert and Zuzana Bednárová. Minimal size of counters for (real-time) multicounter automata. *Fundamenta Informaticae*, 181(2–3):99–127, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Whyman:2021:PCC**

- [160] Richard Whyman. Physical computational complexity and first-order logic. *Fundamenta Informaticae*, 181(2–3):129–161, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Perrot:2021:BAN**

- [161] Kévin Perrot, Pacôme Perrotin, and Sylvain Sené. On Boolean automata networks (de)Composition. *Fundamenta Informaticae*, 181(2–3):163–188, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Fernau:2021:IDC**

- [162] Henning Fernau, Lakshmanan Kuppusamy, Rufus O. Oladele, and Indhumathi Raman. Improved descriptive complexity results for simple semi-conditional grammars. *Fundamenta Informaticae*, 181(2–3):189–211, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Nagy:2021:CIV**

- [163] Benedek Nagy and Sándor Vályi. Circular interval-valued computers and simulation of (red–green) Turing machines. *Fundamenta Informaticae*, 181(2–3):213–238, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Alhazov:2021:RBC**

- [164] Artiom Alhazov, Rudolf Freund, Sergiu Ivanov, and Marion Oswald. Relations between control mechanisms for sequential grammars. *Fundamenta Informaticae*, 181(2–3):239–271, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**vanderAalst:2021:FCN**

- [165] Wil M. P. van der Aalst. Free-choice nets with home clusters are lucent. *Fundamenta Informaticae*, 181(4):273–302, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Drylo:2021:CTJ**

- [166] Robert Dryło. Compression on the twisted Jacobi intersection. *Fundamenta Informaticae*, 181(4):303–312, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Perez:2021:PTC**

- [167] Claudia Pérez and Daniel Rivera. Polynomial-time classification of skew-symmetrizable matrices with a positive definite quasi-Cartan companion. *Fundamenta Informaticae*, 181(4):313–337, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zhang:2021:UMD**

- [168] Kuize Zhang. A unified method to decentralized state detection and fault diagnosis/prediction of discrete-event systems. *Fundamenta Informaticae*, 181(4):339–371, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Keller:2021:P**

- [169] Jörg Keller and Wojciech Penczek. Preface. *Fundamenta Informaticae*, 182(1):v–vi, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Felli:2021:SVD**

- [170] Paolo Felli, Massimiliano de Leoni, and Marco Montali. Soundness verification of data-aware process models with variable-to-variable conditions. *Fundamenta Informaticae*, 182(1):1–29, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Andre:2021:PSA**

- [171] Étienne André, Emmanuel Coquard, Laurent Fribourg, Jawher Jerray, and David Lesens. Parametric schedulability analysis of a launcher flight control system under reactivity constraints. *Fundamenta Informaticae*, 182(1):31–67, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Andre:2021:PAA**

- [172] Étienne André, Didier Lime, Mathias Ramparison, and Mariëlle Stoelinga. Parametric analyses of attack-fault trees. *Fundamenta Informaticae*, 182(1):69–94, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).



**Slezak:2021:PIG**

- [173] Dominik Ślęzak, Tzung-Pei Hong, and Leon S. L. Wang. Preface: Information granulation in data science and scalable computing. *Fundamenta Informaticae*, 182(2):i–ii, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Le:2021:KLD**

- [174] Linh Le, Ying Xie, and Vijay V. Raghavan. KNN loss and deep KNN. *Fundamenta Informaticae*, 182(2):95–110, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Dagdia:2021:DSD**

- [175] Zaineb Chelly Dagdia and Christine Zarges. A detailed study of the distributed rough set based locality sensitive hashing feature selection technique. *Fundamenta Informaticae*, 182(2):111–179, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Tsumoto:2021:MCP**

- [176] Shusaku Tsumoto, Shoji Hirano, Tomohiro Kimura, and Haruko Iwata. Mining clinical process from hospital information system: a granular computing approach. *Fundamenta Informaticae*, 182(2):181–218, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Chehrehani:2021:EAA**

- [177] Mostafa Hagher Chehrehani, Albert Bifet, and Talel Abdessalem. Exact and approximate algorithms for computing betweenness centrality in directed graphs. *Fundamenta Informaticae*, 182(3):219–242, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Jin:2021:TFS**

- [178] Yu Jin, Bosheng Song, Yanyan Li, and Ying Zhu. Time-free solution to independent set problem using P systems with active membranes. *Fundamenta Informaticae*, 182(3):243–255, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Nguyen:2021:EAM**

- [179] Viet Dung Nguyen, Ba Thai Pham, and Phan Thuan Do. Efficient algorithms for maximum induced matching problem in permutation and trapezoid graphs. *Fundamenta Informaticae*, 182(3):257–283, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Sujana:2021:EFB**

- [180] G. Jessy Sujana, T. M. Rajalaxmi, Indra Rajasingh, and R. Sundara Rajan. Edge forcing in butterfly networks. *Fundamenta Informaticae*, 182(3):285–299, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zarrabi:2021:QPV**

- [181] Mohammad Reza Zarrabi and Nasrollah Moghaddam Charkari. Query-points visibility constraint minimum link paths in simple polygons. *Fundamenta Informaticae*, 182(3):301–319, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zhengwei:2021:TBF**

- [182] Xie Zhengwei, Qiu Daowen, Cai Guangya, Jozef Gruska, and Paulo Mateus. Testing Boolean functions properties. *Fundamenta Informaticae*, 182(4):321–344, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Sureson:2021:IAF**

- [183] Claude Sureson. The inverse of Ackermann function is computable in linear time. *Fundamenta Informaticae*, 182(4):345–361, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Wehler:2021:PFC**

- [184] Joachim Wehler. Perpetual free-choice Petri nets are lucent proof of a theorem of van der aalst using CP -exhaustions. *Fundamenta Informaticae*, 182(4):363–393, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Donatelli:2021:P**

- [185] Susanna Donatelli, Stefan Haar, and Slawomir Lasota. Preface. *Fundamenta Informaticae*, 183(1–2):v–vi, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Devillers:2021:APT**

- [186] Raymond Devillers. Articulations and products of transition systems and their applications to Petri net synthesis. *Fundamenta Informaticae*, 183(1–2):1–31, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Finkel:2021:CTF**

- [187] Alain Finkel, Serge Haddad, and Igor Khmelnitsky. Coverability, termination, and finiteness in recursive Petri nets. *Fundamenta Informaticae*, 183(1–2):33–66, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Escrig:2021:IRS**

- [188] David de Frutos Escrig, Maciej Koutny, and Łukasz Mikulski. Investigating reversibility of steps in Petri nets. *Fundamenta Informaticae*, 183(1–2):67–96, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lime:2021:CPP**

- [189] Didier Lime, Olivier H. Roux, and Charlotte Seidner. Cost problems for parametric time Petri nets. *Fundamenta Informaticae*, 183(1–2):97–123, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Tredup:2021:CSB**

- [190] Ronny Tredup. The complexity of synthesis of  $b$ -bounded Petri nets. *Fundamenta Informaticae*, 183(1–2):125–167, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Janicki:2021:P**

- [191] Ryszard Janicki, Slawomir Lasota, and Natalia Sidorova. Preface. *Fundamenta Informaticae*, 183(3–4):i–ii, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Allamigeon:2021:PAD**

- [192] Xavier Allamigeon, Marin Boyet, and Stéphane Gaubert. Piecewise affine dynamical models of Petri nets — application to emergency call centers. *Fundamenta Informaticae*, 183(3–4):169–201, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Fahland:2021:IUE**

- [193] Dirk Fahland, Vadim Denisov, and Wil. M. P. van der Aalst. Inferring unobserved events in systems with shared resources and queues. *Fundamenta Informaticae*, 183(3–4):203–242, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Finkel:2021:EPN**

- [194] Olivier Finkel and Michał Skrzypczak. On the expressive power of non-deterministic and unambiguous Petri nets over infinite words. *Fundamenta Informaticae*, 183(3–4):243–291, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kalenkova:2021:ARP**

- [195] Anna Kalenkova, Josep Carmona, Artem Polyvyanyy, and Marcello La Rosa. Automated repair of process models with non-local constraints using state-based region theory. *Fundamenta Informaticae*, 183(3–4):293–317, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Thierry-Mieg:2021:SSM**

- [196] Yann Thierry-Mieg. Symbolic and structural model-checking. *Fundamenta Informaticae*, 183(3–4):319–342, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Ganty:2021:CBP**

- [197] Pierre Ganty, Elena Gutiérrez, and Pedro Valero. A congruence-based perspective on finite tree automata. *Fundamenta Informaticae*, 184(1):1–47, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Gonzalez:2021:GTF**

- [198] Jesús Arturo Jiménez González. A graph theoretical framework for the strong Gram classification of non-negative unit forms of Dynkin type  $A_n$ . *Fundamenta Informaticae*, 184(1):49–82, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Fajardo:2021:RBA**

- [199] William Fajardo. Right Buchberger algorithm over bijective skew PBW extensions. *Fundamenta Informaticae*, 184(2):83–105, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Wronski:2021:HDC**

- [200] Michał Wroński, Tomasz Kijko, and Robert Dryło. High-degree compression functions on alternative models of elliptic curves and their applications. *Fundamenta Informaticae*, 184(2):107–139, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zielinski:2021:NDM**

- [201] Bartosz Zieliński. A non-deterministic multiset query language. *Fundamenta Informaticae*, 184(2):141–180, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Adamson:2021:HEM**

- [202] Duncan Adamson, Argyrios Deligkas, Vladimir Gusev, and Igor Potapov. On the hardness of energy minimisation for crystal structure prediction. *Fundamenta Informaticae*, 184(3):181–203, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Keikha:2021:CGM**

- [203] Vahideh Keikha, Sepideh Aghamolaei, Ali Mohades, and Mohammad Ghodsi. Clustering geometrically-modeled points in the aggregated uncertainty model. *Fundamenta Informaticae*, 184(3):205–231, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Mitrovic:2021:TCS**

- [204] Melanija Mitrović, Mahouton Norbert Hounkonnou, and Marian Alexandru Baroni. Theory of constructive semigroups with apartness — foundations, development and practice. *Fundamenta Informaticae*, 184(3):233–271, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Barylska:2021:ACR**

- [205] Kamila Barylska and Anna Gogolińska. Acyclic and cyclic reversing computations in Petri nets. *Fundamenta Informaticae*, 184(4):273–296, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Darkey-Mensah:2021:CLS**

- [206] Mawunyo Kofi Darkey-Mensah and Beata Rothkegel. Computing the length of sum of squares and Pythagoras element in a global field. *Fundamenta Informaticae*, 184(4):297–306, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Sima:2021:PTC**

- [207] Jiří Šíma and Stanislav Žák. A polynomial-time construction of a hitting set for read-once branching programs of width 3. *Fundamenta Informaticae*, 184(4):307–354, 2021. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Dolce:2022:MPP**

- [208] Francesco Dolce and Edita Pelantová. On morphisms preserving palindromic richness. *Fundamenta Informaticae*, 185(1):1–25, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Fates:2022:SSC**

- [209] Nazim Fatès, Irène Marcovici, and Siamak Taati. Self-stabilisation of cellular automata on tilings. *Fundamenta Informaticae*, 185(1):27–82, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Forcan:2022:SSW**

- [210] Jovana Forcan and Mirjana Mikalački. Spanning structures in walker–breaker games. *Fundamenta Informaticae*, 185(1):83–97, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Baca:2022:LAV**

- [211] Martin Bača, Andrea Semaničová-Feňovčíková, Rwei-Ting Lai, and Tao-Ming Wang. On local antimagic vertex coloring for complete full  $t$ -ary trees. *Fundamenta Informaticae*, 185(2):99–113, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Danvy:2022:GTB**

- [212] Olivier Danvy. Getting there and back again. *Fundamenta Informaticae*, 185(2):115–183, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Garzon:2022:DNC**

- [213] Ester M. Garzón, José A. Martínez, Juan J. Moreno, and María L. Pueras. On the 2-domination number of cylinders with small cycles. *Fundamenta Informaticae*, 185(2):185–199, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Martinez:2022:PDR**

- [214] A. Cabrera Martínez, C. García-Gómez, and J. A. Rodríguez-Velázquez. Perfect domination, Roman domination and perfect Roman domination in lexicographic product graphs. *Fundamenta Informaticae*, 185(3):201–220, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Gonzalez:2022:CIN**

- [215] Jesús Arturo Jiménez González. Coxeter invariants for non-negative unit forms of Dynkin type  $A_r$ . *Fundamenta Informaticae*, 185(3):221–246, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Schmidt-Schauss:2022:NUM**

- [216] Manfred Schmidt-Schauß, Temur Kutsia, Jordi Levy, Mateu Villaret, and Yunus Kutz. Nominal unification and matching of higher order expressions with recursive let. *Fundamenta Informaticae*, 185(3):247–283, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Abhishek:2022:RNG**

- [217] Kunal Abhishek and E. George Dharma Prakash Raj. On random number generation for kernel applications. *Fundamenta Informaticae*, 185(4):285–311, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Geuvers:2022:CBE**

- [218] Herman Geuvers and Rob Nederpelt. Characteristics of de Bruijn’s early proof checker Automath. *Fundamenta Informaticae*, 185(4):313–336, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kutrib:2022:CDP**

- [219] Martin Kutrib, Andreas Malcher, Carlo Mereghetti, and Beatrice Palano. Computational and descriptive power of nondeterministic iterated uniform finite-state transducers. *Fundamenta Informaticae*, 185(4):337–356, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lin:2022:LDA**

- [220] Cheng-Kuan Lin, Tzu-Liang Kung, Chun-Nan Hung, and Yuan-Hsiang Teng. A local diagnosis algorithm for hypercube-like networks under the BGM diagnosis model. *Fundamenta Informaticae*, 185(4):357–373, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Avron:2022:P**

- [221] Arnon Avron, Nachum Dershowitz, and Alexander Rabinovich. Preface. *Fundamenta Informaticae*, 186(1–4):v–viii, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Abramsky:2022:SPE**

- [222] Samson Abramsky. Structure and power: an emerging landscape. *Fundamenta Informaticae*, 186(1–4):1–26, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Arnold:2022:ACS**

- [223] André Arnold, Patrick Cégielski, and Irène Guessarian. Affine completeness of some free binary algebras. *Fundamenta Informaticae*, 186(1–4):27–44, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Artemov:2022:TSE**

- [224] Sergei Artemov. Towards syntactic epistemic logic. *Fundamenta Informaticae*, 186(1–4):45–62, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Brutsch:2022:SIG**

- [225] Benedikt Brütsch and Wolfgang Thomas. Solving infinite games in the Baire space. *Fundamenta Informaticae*, 186(1–4):63–88, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Courcelle:2022:OTT**

- [226] Bruno Courcelle. Order-theoretic trees: Monadic second-order descriptions and regularity. *Fundamenta Informaticae*, 186(1–4):89–120, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Francez:2022:GFF**

- [227] Nissim Francez. A generalization of falsity in finitely-many valued logics. *Fundamenta Informaticae*, 186(1–4):121–132, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Gurevich:2022:ICM**

- [228] Yuri Gurevich. The 1966 International Congress of Mathematicians: a micro-memoir. *Fundamenta Informaticae*, 186(1–4):133–141, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kaminski:2022:NCN**

- [229] Michael Kaminski. A note on calculi for non-deterministic many-valued logics. *Fundamenta Informaticae*, 186(1–4):143–153, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).



**Kotek:2022:TMP**

- [230] Tomer Kotek and Johann A. Makowsky. On the Tutte and matching polynomials for complete graphs. *Fundamenta Informaticae*, 186(1–4): 155–173, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Kasjan:2022:DSO**

- [231] Stanisław Kasjan and Damian Niwiński. Daniel Simson obituary. *Fundamenta Informaticae*, 187(1):v–vii, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Bhagat:2022:GMN**

- [232] Subhash Bhagat, Abhinav Chakraborty, Bibhuti Das, and Krishnendu Mukhopadhyaya. Gathering over meeting nodes in infinite grid. *Fundamenta Informaticae*, 187(1):1–30, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Redeker:2022:NCP**

- [233] Markus Redeker. Number conservation via particle flow in one-dimensional cellular automata. *Fundamenta Informaticae*, 187(1):31–59, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Zhou:2022:NGF**

- [234] Sizhong Zhou. A note of generalization of fractional ID-factor-critical graphs. *Fundamenta Informaticae*, 187(1):61–69, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Buchs:2022:P**

- [235] Didier Buchs, Josep Carmona, and Jetty Kleijn. Preface. *Fundamenta Informaticae*, 187(2–4):i–iii, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Abbes:2022:IPC**

- [236] Samy Abbes. Introduction to probabilistic concurrent systems. *Fundamenta Informaticae*, 187(2–4):71–102, 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Amat:2022:PAP**

- [237] Nicolas Amat, Bernard Berthomieu, and Silvano Dal Zilio. A polyhedral abstraction for Petri nets and its application to SMT-based model check-

ing. *Fundamenta Informaticae*, 187(2–4):103–138, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Devillers:2022:SPI**

- [238] Raymond Devillers and Ronny Tredup. Synthesis of pure and impure Petri nets with restricted place-environments: Complexity issues. *Fundamenta Informaticae*, 187(2–4):139–165, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Devillers:2022:SBT**

- [239] Raymond Devillers and Ronny Tredup. Some basic techniques allowing Petri net synthesis: Complexity and algorithmic issues. *Fundamenta Informaticae*, 187(2–4):167–196, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Esparza:2022:CPI**

- [240] Javier Esparza, Mikhail Raskin, and Christoph Welzel. Computing parameterized invariants of parameterized Petri nets. *Fundamenta Informaticae*, 187(2–4):197–243, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Wallner:2022:SAU**

- [241] Sophie Wallner and Karsten Wolf. Skeleton abstraction for universal temporal properties. *Fundamenta Informaticae*, 187(2–4):245–272, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Gh:2022:FHC**

- [242] Behrooz Bagheri Gh., Tomas Feder, Herbert Fleischner, and Carlos Subi. On finding Hamiltonian cycles in barnette graphs. *Fundamenta Informaticae*, 188(1):1–14, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Bes:2022:DDI**

- [243] Alexis Bès and Christian Hoffrut. Decidability of definability issues in the theory of real addition. *Fundamenta Informaticae*, 188(1):15–39, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Mrozek:2022:UAS**

- [244] Ireneusz Mrozek, Nikolai A. Shevchenko, and Vyacheslav N. Yarmolik. Universal address sequence generator for memory built-in self-test. *Fundamenta Informaticae*, 188(1):41–61, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Eberbach:2022:CCM**

- [245] Eugene Eberbach. On completeness of cost metrics and meta-search algorithms in  $\$$ -calculus. *Fundamenta Informaticae*, 188(2):63–90, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Lee:2022:IUB**

- [246] Hyang-Sook Lee, Seongan Lim, Ikkwon Yie, and Aaram Yun. On insecure uses of BGN for privacy preserving data aggregation protocols. *Fundamenta Informaticae*, 188(2):91–101, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Macyna:2022:AMP**

- [247] Wojciech Macyna and Michal Kukowski. Adaptive merging on phase change memory. *Fundamenta Informaticae*, 188(2):103–126, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Barozzini:2022:CAS**

- [248] David Barozzini, Lorenzo Clemente, Thomas Colcombet, and Paweł Parys. Cost automata, safe schemes, and downward closures. *Fundamenta Informaticae*, 188(3):127–178, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).

**Jancar:2022:SLI**

- [249] Petr Jančar and Jiří Valušek. Structural liveness of immediate observation Petri nets. *Fundamenta Informaticae*, 188(3):179–215, ??? 2022. CODEN FUMAAJ. ISSN 0169-2968 (print), 1875-8681 (electronic).