

# CP Papers on Scheduling

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## 1 Introduction

## 2 Conference Paper List

Table 1 lists relevant papers on CP and Scheduling from the CP and CPAIOR conferences. It gives the author names and title of the paper, the reference to the published paper, the year and conference or journal where the paper was published. It also lists the CP systems that were used in the paper, and states if data and/or code of the paper is available online. A link to the stored location is given where it is known.

Table 1: List of Conference Papers

Authors	Title	Cite	Year	Conference	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
C. Juvin, E. Hebrard, L. Houssin, P. Lopez	An Efficient Constraint Programming Approach to Preemptive Job Shop Scheduling	[120]	2023	CP	16	CP Opt Mistral	(y)			PJSSP	endBeforeStart span noOverlap
G. Pováda, N. Álvarez, C. Artigues	Partially Preemptive Multi Skill/Mode Resource-Constrained Project Scheduling with Generalized Precedence Relations and Calendars	[187]	2023	CP	21	CP Opt MiniZinc Chuffed	y	y		PP-MS-MMRCPPSP/n cal	
Y. Aalian, G. Pesant, M. Gamache	Optimization of Short-Term Underground Mine Planning Using Constraint Programming	[1]	2023	CP	16	CP Opt	n	n			
R. Kameugne, S. Fetgo, T. Noulamo, C. Djamégni	Horizontally Elastic Edge Finder Rule for Cumulative Constraint Based on Slack and Density	[125]	2023	CP	17					RCPSPs	
N. Efthymiou, N. Yorke-Smith	Predicting the Optimal Period for Cyclic Hoist Scheduling Problems	[70]	2023	CPAIOR							
S. Squillaci, C. Pralet, S. Roussel	Scheduling Complex Observation Requests for a Constellation of Satellites: Large Neighborhood Search Approaches	[213]	2023	CPAIOR							
D. Kim, Y. Choi, K. Moon, M. Lee, K. Lee, M. Pinedo	Iterated Greedy Constraint Programming for Scheduling Steelmaking Continuous Casting	[131]	2023	CPAIOR							
C. Juvin, L. Houssin, P. Lopez	Constraint Programming for the Robust Two-Machine Flow-Shop Scheduling Problem with Budgeted Uncertainty	[121]	2023	CPAIOR							
F.Tardivo, A. Dovier, A. Formisano, L. Michel, E.Pontelli	Constraint Propagation on GPU: A Case Study for the Cumulative Constraint	[216]	2023	CPAIOR							

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Authors	Title	Cite	Year	Conference	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
R. Boudreault, V. Simard, D. Lafond, C. Quimper	A Constraint Programming Approach to Ship Re-fit Project Scheduling	[40]	2022	CP	16	MiniZinc Chuffed		y	-	RCPSP	cumulative
L. Popovic, A. Côté, M. Gaha, F. Nguewouo, Q. Cappart	Scheduling the Equipment Maintenance of an Electric Power Transmission Network Using Constraint Programming	[186]	2022	CP	15	CP Opt	n	n	-	TMS	alwaysIn noOverlap
F. Winter, S. Meiswinkel, N. Musliu, D. Walkiewicz	Modeling and Solving Parallel Machine Scheduling with Contamination Constraints in the Agricultural Industry	[239]	2022	CP	18	Cplex Gurobi CP Opt Sim Anneal CP Opt	y	y	-	PMSP	alternative noOverlap
E. Armstrong, M. Garraffa, B. O'Sullivan, H. Simonis	A Two-Phase Hybrid Approach for the Hybrid Flexible Flowshop with Transportation Times	[8]	2022	CPAIOR	13		(y)	-	[7]	$HFFm tt C_m$	endBeforeStart alternative cumulative noOverlap
M. Geitz, C. Grozea, W. Steigerwald, R. Stöhr, A. Wolf	Solving the Extended Job Shop Scheduling Problem with AGVs - Classical and Quantum Approaches	[87]	2022	CPAIOR							
Y. Ouellet, C. Quimper	A MinCumulative Resource Constraint	[182]	2022	CPAIOR							
E. Armstrong, M. Garraffa, B. O'Sullivan, H. Simonis	The Hybrid Flexible Flowshop with Transportation Times	[7]	2021	CP	18	MiniZinc Chuffed CP Opt SICStus MCTS	y	y	-	$HFFm tt C_m$	cumulative diffn table
V. Antuori, E. Hebrard, M. Huguet, S. Essoudaigui, A. Nguyen	Combining Monte Carlo Tree Search and Depth First Search Methods for a Car Manufacturing Workshop Scheduling Problem	[6]	2021	CP	16		y	y	[]		
B. Kovács, P. Tassel, W. Kohlenbrein, P. Schrott-Kostwein, M. Gebser	Utilizing Constraint Optimization for Industrial Machine Workload Balancing	[141]	2021	CP	17	Gurobi Cplex CP Opt	y	y	-		cumulative
M. Lackner, C. Mrkvicka, N. Musliu, D. Walkiewicz, F. Winter	Minimizing Cumulative Batch Processing Time for an Industrial Oven Scheduling Problem	[148]	2021	CP	18	OR-Tools CP Opt Chuffed OR-Tools Gurobi OPL	y	y		OSP	
A. Hill, J. Ticktin, T. Vossen	A Computational Study of Constraint Programming Approaches for Resource-Constrained Project Scheduling with Autonomous Learning Effects	[111]	2021	CPAIOR							
C. Klanke, D. Bleidorn, V. Yfantis, S.Engell	Combining Constraint Programming and Temporal Decomposition Approaches - Scheduling of an Industrial Formulation Plant	[132]	2021	CPAIOR							
C. Hanen, A. Kordon, T. Pedersen	Two Deadline Reduction Algorithms for Scheduling Dependent Tasks on Parallel Processors	[99]	2021	CPAIOR							
M. Åstrand, M. Johansson, H. Feyzmahdavian	Short-Term Scheduling of Production Fleets in Underground Mines Using CP-Based LNS	[11]	2021	CPAIOR							
T. Geibinger, L. Kletzander, M. Krainz, F. Mischek, N. Musliu, F. Winter	Physician Scheduling During a Pandemic	[85]	2021	CPAIOR							
M. Nattaf, A. Malapert	Filtering Rules for Flow Time Minimization in a Parallel Machine Scheduling Problem	[178]	2020	CP	16	Cplex CP Opt	-	-	[]	PTC	alternative noOverlap
L. Groleaz, S. Ndiaye, C. Solnon	Solving the Group Cumulative Scheduling Problem with CPO and ACO	[97]	2020	CP	17	CP Opt ACO	-	-	[96]	GCSP	group cumulative
A. Mercier-Aubin, J. Gaudreault, C. Quimper	Leveraging Constraint Scheduling: A Case Study to the Textile Industry	[169]	2020	CPAIOR	13	MiniZinc Chuffed	a	a	-		circuit cumulative

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Authors	Title	Cite	Year	Conference	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
T. Tang, C. Beck	CP and Hybrid Models for Two-Stage Batching and Scheduling	[215]	2020	CPAIOR	16	Cplex	n	n	-	2BPHFSP	span
J. Wessén, M. Carlsson, C. Schulte	Scheduling of Dual-Arm Multi-tool Assembly Robots and Workspace Layout Optimization	[238]	2020	CPAIOR	10	CP Opt Gecode	n	n	-		alwaysIn circuit alldifferent
G. Col, E. Teppan	Industrial Size Job Shop Scheduling Tackled by Present Day CP Solvers	[54]	2019	CP	17	CP Opt OR-Tools	y	y	-	JSSP	noOverlap
S. Frimodig, C. Schulte	Models for Radiation Therapy Patient Scheduling	[77]	2019	CP	17	Mini-Zinc Gecode Cplex	n	n	-		cumulative regular bin-packing
C. Galleguillos, Z. Kiziltan, A. Sirbu, Ö. Babaoglu	Constraint Programming-Based Job Dispatching for Modern HPC Applications	[79]	2019	CP		OR-Tools		y		on-line dispatch	
S. Murin, H. Rudová	Scheduling of Mobile Robots Using Constraint Programming	[173]	2019	CP	16	CP Opt Cplex OPL	y	y		JSPT	endBeforeStart alternative noOverlap
A. Tesch	Improving Energetic Propagations for Cumulative Scheduling	[218]	2018	CP	17						
S. He, M. Wallace, G. Gange, A. Liebman, C. Wilson	A Fast and Scalable Algorithm for Scheduling Large Numbers of Devices Under Real-Time Pricing	[100]	2018	CP	18						
M. Boffill, J. Coll, J. Suy, M. Villaret	An Efficient SMT Approach to Solve MR-CPSP/max Instances with Tight Constraints on Resources	[32]	2017	CP	9						
C. Pralet	An Incomplete Constraint-Based System for Scheduling with Renewable Resources	[188]	2017	CP	19						
K. Young, T. Feydy, A. Schutt	Constraint Programming Applied to the Multi-Skill Project Scheduling Problem	[243]	2017	CP	10						
A. Goldwaser, A. Schutt	Optimal Torpedo Scheduling	[90]	2017	CP	16						
T. Liu, R. Di Cosmo, M. Gabbrielli, J. Mauro	NightSplitter: A Scheduling Tool to Optimize (Sub)group Activities	[159]	2017	CP	17						
M. Mossige, A. Gotlieb, H. Spieker, H. Meling, M. Carlsson	Time-Aware Test Case Execution Scheduling for Cyber-Physical Systems	[171]	2017	CP	18						
J. Hooker	Job Sequencing Bounds from Decision Diagrams	[116]	2017	CP	14						
A. Bonfietti, A. Zanarini, M. Lombardi, M. Milano	The Multirate Resource Constraint	[38]	2016	CP	17						
A. Schutt, P. Stuckey	Explaining Producer/Consumer Constraints	[203]	2016	CP	17						
R. Szeredi, A. Schutt	Modelling and Solving Multi-mode Resource-Constrained Project Scheduling	[214]	2016	CP	10						
A. Tesch	A Nearly Exact Propagation Algorithm for Energetic Reasoning in $\mathcal{O}(n^2 \log n)$	[217]	2016	CP	26						
S. Van Cauwelaert, C. Dejemeppe, J. Monette, P. Schaus	Efficient Filtering for the Unary Resource with Family-Based Transition Times	[47]	2016	CP	16						
K. Booth, G. Nejat, C. Beck	A Constraint Programming Approach to Multi-Robot Task Allocation and Scheduling in Retirement Homes	[39]	2016	CP	17						
K. Giles, W. van Hoeve	Solving a Supply-Delivery Scheduling Problem with Constraint Programming	[89]	2016	CP	16						
B. Lim, H. Hijazi, S. Thiébaux, M. van den Briel	Online HVAC-Aware Occupancy Scheduling with Adaptive Temperature Control	[156]	2016	CP	18						
C. Dejemeppe, S. Van Cauwelaert, P. Schaus	The Unary Resource with Transition Times	[60]	2015	CP	16						

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Authors	Title	Cite	Year	Conference	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
S. Gay, R. Hartert, C. Lecoutre, P. Schaus	Conflict Ordering Search for Scheduling Problems	[81]	2015	CP	9						
S. Gay, R. Hartert, P. Schaus	Simple and Scalable Time-Table Filtering for the Cumulative Constraint	[82]	2015	CP	9						
S. Kreter, A. Schutt, P. Stuckey	Modeling and Solving Project Scheduling with Calendars	[142]	2015	CP	17						
M. Lombardi, A. Bonfietti, M. Milano	Deterministic Estimation of the Expected Makespan of a POS Under Duration Uncertainty	[160]	2015	CP	16						
M. Siala, C. Artigues, E. Hebrard	Two Clause Learning Approaches for Disjunctive Scheduling	[207]	2015	CP	10						
C. Even, A. Schutt, P. Van Hentenryck	A Constraint Programming Approach for Non-preemptive Evacuation Scheduling	[72]	2015	CP	18						
S. Murphy, O. Manzano, K. Brown	Design and Evaluation of a Constraint-Based Energy Saving and Scheduling Recommender System	[174]	2015	CP	17						
C. Pralet, S. Lemaichenevier, J. Jaubert	Scheduling Running Modes of Satellite Instruments Using Constraint-Based Local Search	[189]	2015	CP	16						
A. Derrien, T. Petit	A New Characterization of Relevant Intervals for Energetic Reasoning	[63]	2014	CP	9						
A. Derrien, T. Petit, S. Zampelli	A Declarative Paradigm for Robust Cumulative Scheduling	[64]	2014	CP	9						
V. Houndji, P. Schaus, L. Wolsey, Y. Deville	The StockingCost Constraint	[118]	2014	CP	16						
A. Bartolini, A. Borghesi, T. Bridi, M. Lombardi, M. Milano	Proactive Workload Dispatching on the EU-RORA Supercomputer	[19]	2014	CP	16						
M. Bofill, J. Espasa, M. Garcia, M. Palahí, J. Suy, M. Villaret	Scheduling B2B Meetings	[33]	2014	CP	16						
S. Di Alesio, S. Nejati, L. Briand, A. Gotlieb	Worst-Case Scheduling of Software Tasks - A Constraint Optimization Model to Support Performance Testing	[65]	2014	CP	18						
S. Gay, P. Schaus, V. De Smedt	Continuous Casting Scheduling with Constraint Programming	[84]	2014	CP	15						
		[180]	2013	CP							
		[200]	2013	CP							
		[208]	2012	CP							
		[152]	2012	CP							
		[205]	2012	CP							
		[119]	2012	CP							
		[110]	2011	CP							
		[35]	2011	CP							
		[52]	2011	CP							
		[93]	2011	CP							
		[126]	2011	CP							
		[163]	2010	CP							
		[204]	2010	CP							
		[13]	2009	CP							
		[94]	2009	CP							
		[162]	2009	CP							
		[201]	2009	CP							
		[229]	2009	CP							
		[172]	2008	CP							
		[59]	2007	CP							
		[80]	2007	CP							

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Authors	Title	Cite	Year	Conference	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
		[222]	2007	CP							
		[130]	2006	CP							
		[10]	2005	CP							
		[75]	2005	CP							
		[114]	2005	CP							
		[66]	2005	CP							
		[2]	2005	CP							
		[45]	2005	CP							
		[241]	2005	CP							
		[101]	2005	CP							
		[137]	2005	CP							
		[232]	2004	CP							
		[112]	2004	CP							
		[139]	2004	CP							
		[155]	2004	CP							
		[179]	2003	CP							
		[144]	2003	CP							
		[240]	2003	CP							
		[56]	2003	CP							
		[226]	2003	CP							
		[21]	2002	CP							
		[175]	2002	CP							
		[122]	2002	CP							
		[17]	2002	CP							
		[117]	2002	CP							
		[71]	2002	CP							
		[225]	2002	CP							
		[224]	2001	CP							
		[223]	2001	CP							
		[5]	2000	CP							
		[192]	1998	CP							
		[48]	1998	CP							
		[78]	1998	CP							
		[46]	1997	CP							
		[14]	1997	CP							
		[20]	1997	CP							
		[55]	1996	CP							
		[244]	1996	CP							
		[212]	1995	CP							
		[91]	1995	CP							
		[210]	1995	CP							
		[190]	1995	CP							
		[219]	1995	CP							
		[86]	2019	CPAIOR							
		[167]	2019	CPAIOR							
		[221]	2019	CPAIOR							
		[242]	2019	CPAIOR							
		[26]	2018	CPAIOR							
		[62]	2018	CPAIOR							
		[124]	2018	CPAIOR							
		[146]	2018	CPAIOR							
		[181]	2018	CPAIOR							
		[12]	2018	CPAIOR							
		[44]	2017	CPAIOR							
		[133]	2017	CPAIOR							

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Authors	Title	Cite	Year	Conference	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
		[88]	2017	CPAIOR							
		[74]	2016	CPAIOR							
		[102]	2016	CPAIOR							
		[166]	2016	CPAIOR							
		[4]	2015	CPAIOR							
		[34]	2015	CPAIOR							
		[41]	2015	CPAIOR							
		[83]	2015	CPAIOR							
		[157]	2015	CPAIOR							
		[185]	2015	CPAIOR							
		[234]	2015	CPAIOR							
		[135]	2014	CPAIOR							
		[37]	2014	CPAIOR							
		[61]	2014	CPAIOR							
		[30]	2014	CPAIOR							
		[68]	2014	CPAIOR							
		[104]	2013	CPAIOR							
		[128]	2013	CPAIOR							
		[153]	2013	CPAIOR							
		[199]	2013	CPAIOR							
		[51]	2013	CPAIOR							
		[98]	2013	CPAIOR							
		[31]	2012	CPAIOR							
		[36]	2012	CPAIOR							
		[103]	2012	CPAIOR							
		[191]	2012	CPAIOR							
		[198]	2012	CPAIOR							
		[49]	2011	CPAIOR							
		[69]	2011	CPAIOR							
		[150]	2011	CPAIOR							
		[161]	2011	CPAIOR							
		[231]	2011	CPAIOR							
		[53]	2010	CPAIOR							
		[58]	2010	CPAIOR							
		[92]	2010	CPAIOR							
		[29]	2010	CPAIOR							
		[145]	2009	CPAIOR							
		[230]	2009	CPAIOR							
		[3]	2009	CPAIOR							
		[22]	2008	CPAIOR							
		[67]	2008	CPAIOR							
		[237]	2008	CPAIOR							
		[16]	2008	CPAIOR							
		[151]	2008	CPAIOR							
		[109]	2008	CPAIOR							
		[129]	2007	CPAIOR							
		[170]	2007	CPAIOR							
		[23]	2007	CPAIOR							
		[193]	2007	CPAIOR							
		[220]	2007	CPAIOR							
		[27]	2006	CPAIOR							
		[140]	2006	CPAIOR							
		[50]	2005	CPAIOR							
		[76]	2005	CPAIOR							
		[228]	2005	CPAIOR							

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Authors	Title	Cite	Year	Conference	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
		[168]	2004	CPAIOR							
		[9]	2004	CPAIOR							
		[108]	2004	CPAIOR							
		[227]	2004	CPAIOR							
		[194]	2004	CPAIOR							

Table 2: Problem Classification Types

Code	Name
JSSP	Job-Shop Scheduling Problem
JSPT	Job-Shop Scheduling Problem with Transportation
PP-MS-MMRCPPSP/max-cal	partially preemptive- multi-skill/mode resource-constrained project scheduling problem with generalized precedence relations and resource calendars
RCPSP	Resource Constrained Project Scheduling Problem
TMS	Transmission Network Maintenance Planning
PMSP	Parallel Machine Scheduling Problem
HFF	Hybrid Flexible Flow-shop
$HFFm tt C_{\max}$	Hybrid Flexible Flowshop with Transportation Times
OSP	Oven Scheduling Problem
PTC	Scheduling Problem with Time Constraints
GCSP	Group Cumulative Scheduling Problem
2BPHFSP	Two-Stage Bin Packing and Hybrid Flow Shop Scheduling Problem
CTW	Cable Tree Wiring Problem
CHSP	Cyclic Hoist Scheduling Problem
CECSP	Continuous Energy-Constrained Scheduling Problem
CuSP	Cumulative Scheduling Problem
SBSFMMAL	Simultaneous Balancing and Scheduling of Flexible Mixed Model Assembly Lines
SMSDP	steel mill slab design problem
KRFP	kernel resource feasibility problem
TCSP	Temporal Constraint Satisfaction Problem
PJSSP	Pre-emptive Job-Shop scheduling Problem
MGAP	Modified Generalized Assignment Problem

### 3 Journal Articles

Table 3: List of Journal Articles

Authors	Title	Cite	Year	Journal	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
M. Lackner, C. Mrkvicka, N. Musliu, D. Walkiewicz, F. Winter	Exact methods for the Oven Scheduling Problem	[149]	2023	Constraints		MiniZinc OPL	DZN JSON	y	[148]	OSP	alternative noOverlap forbidExtent
J. Caballero	Scheduling through logic-based tools	[42]	2023	Constraints	1	SAT			PhD Thesis	RCPSP	
L. Campeau, M. Gamache	Short- and medium-term optimization of underground mine planning using constraint programming	[43]	2022	Constraints	18	CP Opt	ref	n			pulse alwaysIn endBeforeStart noOverlap alldifferent inverse
J. Koehler, J. Bürgler, U. Fontana, E. Fux, F. Herzog, M. Pouly, S. Saller, A. Salyaeva, P. Scheiblechner, K. Waelti	Cable tree wiring - benchmarking solvers on a real-world scheduling problem with a variety of precedence constraints	[134]	2021	Constraints	51	CP Opt OR-Tools Chuffed Cplex Gurobi Z3 OptiMathSat	DZN	y	-	CTW	
O. Benedikt, I. Módos, Z. Hanzálek	Power of pre-processing: production scheduling with variable energy pricing and power-saving states	[25]	2020	Constraints	19	CP Opt Gurobi	JSON	y			
M. Wallace, N. Yorke-Smith	A new constraint programming model and solving for the cyclic hoist scheduling problem	[236]	2020	Constraints	19	MiniZinc	DZN	y		CHSP	
P. Laborie, J. Rogerie, P. Shaw, P. Vilim	IBM ILOG CP optimizer for scheduling - 20+ years of scheduling with constraints at IBM/ILOG	[147]	2018	Constraints	41	OP Opt	-	-	-	-	-
H. Fahimi, Y. Ouellet, C. Quimper	Linear-time filtering algorithms for the disjunctive constraint and a quadratic filtering algorithm for the cumulative not-first not-last	[73]	2018	Constraints	22	Choco	(y)	n		RCPSP	disjunctive cumulative
S. Kreter, A. Schutt, P. Stuckey	Using constraint programming for solving RCPSP/max-cal	[143]	2017	Constraints	31	MiniZinc Chuffed Cplex	dead		CP 2015	RCPSP	cumulative cumulativeCalendar
M. Nattaf, C. Artigues, P. Lopez	Cumulative scheduling with variable task profiles and concave piecewise linear processing rate functions	[177]	2017	Constraints	18	Cplex				CECSP	
G. Simonin, C. Artigues, E. Hebrard, P. Lopez	Scheduling scientific experiments for comet exploration	[209]	2015	Constraints	23	Scheduler					cumulative dataTransfer
A. Letort, M. Carlsson, N. Beldiceanu	Synchronized sweep algorithms for scalable scheduling constraints	[154]	2015	Constraints	52	Choco SICStus	dead	-	-	-	cumulative dimCumulative dimCumulativePrecedences
M. Nattaf, C. Artigues, P. Lopez	A hybrid exact method for a scheduling problem with a continuous resource and energy constraints	[176]	2015	Constraints	21	Cplex	n	n		CSCSP	
M. Siala	Search, propagation, and learning in sequencing and scheduling problems	[206]	2015	Constraints	2	-	-	-	PhD Thesis		
R. Kameugne	Propagation techniques of resource constraint for cumulative scheduling	[123]	2015	Constraints	2	-	-	-	PhDThesis	RCPSP	
R. Kameugne, L. Fotso, J. Scott, Y. Ngo-Kateu	A quadratic edge-finding filtering algorithm for cumulative resource constraints	[127]	2014	Constraints	27	Gecode	y		CP 2011	CuSP	cumulative
S. Heinz, J. Schulz, C. Beck	Using dual presolving reductions to reformulate cumulative constraints	[106]	2013	Constraints	36	Cplex SCIP	ref	-	-	RCPSP RCPSP/max	cumulative
C. Öztürk, S. Tunalı, B. Hnich, A. Ornek	Balancing and scheduling of flexible mixed model assembly lines	[183]	2013	Constraints	36	Ilog Solver Ilog Scheduler Cplex	y	-	-	SBSFMMAL	alldifferent disjunctive



Table 3: List of Conference Papers

Authors	Title	Cite	Year	Journal	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
S. Heinz, T. Schlechte, R. Stephan, M. Winkler	Solving steel mill slab design problems	[105]	2012	Constraints	12		Cplex	dead	-	SMSDP	-
M. Lombardi, M. Milano	Optimal methods for resource allocation and scheduling: a cross-disciplinary survey	[164]	2012	Constraints	35	-	-	-	-	survey	-
K. Limtanyakul, U. Schwiegelshohn	Improvements of constraint programming and hybrid methods for scheduling of tests on vehicle prototypes	[158]	2012	Constraints	32	Cplex Ilog Scheduler	dead	-	-		
A. Kovács, C. Beck	A global constraint for total weighted completion time for unary resources	[136]	2011	Constraints	24	Ilog Scheduler	n	n	-		Completion
P. Schaus, P. Van Hentenryck, J. Monette, C. Coffrin, L. Michel, Y. Deville	Solving Steel Mill Slab Problems with constraint-based techniques: CP, LNS, and CBLS	[196]	2011	Constraints	23	Comet	dead			SMSDP	
R. Barták, M. Salido	Constraint satisfaction for planning and scheduling problems	[18]	2011	Constraints	5	-	-	-		survey	
A. Schutt, T. Feydy, P. Stuckey, M. Wallace	Explaining the cumulative propagator	[202]	2011	Constraints	33	MiniZinc	PSPLib	-	-	RCPSP	cumulative
A. Kovács, T. Kis	Constraint programming approach to a bilevel scheduling problem	[138]	2011	Constraints	24	Ilog Solver	n	n	-	Bilevel Opt	
T. Lopes, A. Ciré, C. de Souza, A. Moura	A hybrid model for a multiproduct pipeline planning and scheduling problem	[165]	2010	Constraints	39	Ilog Solver	-	-	CP2008		
H. Simonis	Models for Global Constraint Applications	[211]	2007	Constraints	30	CHIP	n	n			cumulative diffn cycle inverse cumulative
J. Hooker	An Integrated Method for Planning and Scheduling to Minimize Tardiness	[115]	2006	Constraints	19	OPL Cplex Ilog Scheduler	n	n	CP 2005	CuSP	
J. Hooker	A Hybrid Method for the Planning and Scheduling	[113]	2005	Constraints	17	OPL Cplex Ilog Scheduler	n	n	-	CuSP	cumulative
P. Vilím, R. Barták, O. Cepek	Extension of $O(n \log n)$ Filtering Algorithms for the Unary Resource Constraint to Optional Activities	[233]	2005	Constraints	23		n	n		JSSP	disjunctive
P. Baptiste, C. Le Pape	Constraint Propagation and Decomposition Techniques for Highly Disjunctive and Highly Cumulative Project Scheduling Problems	[15]	2000	Constraints	21	CLAIRE	n	n		RCCSP	cumulative
K. Schild, J. Würtz	Scheduling of Time-Triggered Real-Time Systems	[197]	2000	Constraints	23	OZ	n	n	-		disjunctive
H. El Sakkout, M. Wallace	Probe Backtrack Search for Minimal Perturbation in Dynamic Scheduling	[195]	2000	Constraints	30	Cplex ECLIPSe	n	n	-	KRFP	
S. Heipcke, Y. Colombani, C. Cavalcante, C. de Souza	Scheduling under Labour Resource Constraints	[107]	2000	Constraints	8	COME SchedEns	dead	n	-		
E. Bensana, M. Lemaître, G. Verfaillie	Earth Observation Satellite Management	[28]	1999	Constraints	7	Ilog Solver	?	-	-		
S. Belhadji, A. Isli	Temporal Constraint Satisfaction Techniques in Job Shop Scheduling Problem Solving	[24]	1998	Constraints	9	-	n	n	-	TCSP JSSP	
C. Le Pape, P. Baptiste	Resource Constraints for Preemptive Job-shop Scheduling	[184]	1998	Constraints	25	Ilog Solver Claire	dead	-	-	PJSSP	disjunctive
J. Zhou	A Permutation-Based Approach for Solving the Job-Shop Problem	[245]	1997	Constraints	29	-	n	n	CP 1996	JSSP	flow sort alldifferent permutation
K. Darby-Dowman, J. Little, G. Mitra, M. Zafalon	Constraint Logic Programming and Integer Programming Approaches and Their Collaboration in Solving an Assignment Scheduling Problem	[57]	1997	Constraints	20	Cplex ECLIPSe	n	n	-	MGAP	

Table 3: List of Conference Papers

Authors	Title	Cite	Year	Journal	Pages	CP System	Data Avail	Code Avail	Based On	Classification	Constraints
M. Wallace	Practical Applications of Constraint Programming	[235]	1996	Constraints	30	-	-	-	-	Survey	-
D. Grimes, G. Ifrim, B. O’Sullivan, H. Simonis	Analyzing the impact of electricity price forecasting on energy cost-aware scheduling	[95]	2014	J.SUSCOM			-	-	-		

## 4 Concept Matching

In order to find out properties of the articles, we try to find concepts in the pdf versions of the articles. We use the *pdfgrep* command to search for the number of occurrences of certain regular expressions in the files. This often clearly identifies the constraints used in the model, and the solvers that are discussed.

Ref.	alternative constraint	cumulative	disjunctive	diffn	table constraint	regular expression	circuit	nooverlap	endbeforestart	alwaysin	span constraint	bin.?packing	cplex	gurobi	gcode	choco	mistral	or.?tools	OPL	cpo	chuffed	sicstus	eclipse	mini.?zinc
AalianPG23 [1]	0	15	0	0	0	0	0	2	2	5	0	0	1	0	0	0	0	0	0	3	0	0	0	0
AntuoriHHEN21 [6]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0	0	0	0	0
ArmstrongGOS21 [7]	1	2	0	9	2	0	1	0	0	0	0	2	4	0	1	0	0	0	0	8	11	15	0	11
ArmstrongGOS22 [8]	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
Astrand0F21 [11]	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
BoudreaultSLQ22 [40]	0	16	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	11	0	0	8
ColT19 [54]	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	23	0	36	0	0	0	10
EfthymiouY23 [70]	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
FrimodigS19 [77]	0	2	0	0	0	3	0	0	0	0	0	3	1	0	2	0	0	0	0	0	0	0	0	1
GalleguillosKSB19 [79]	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
GeibingerKKMMW21 [85]	0	0	0	0	0	0	0	0	0	0	0	0	12	12	4	0	0	4	0	0	0	0	0	1
GeitzGSSW22 [87]	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
GroleazNS20 [97]	0	32	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	94	0	0	0	0
HanenKP21 [99]	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HillTV21 [111]	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
JuvinHHL23 [120]	0	1	20	0	0	0	0	28	1	0	0	0	0	0	0	0	16	0	0	29	0	0	0	0
JuvinHL23 [121]	0	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
KameugneFND23 [125]	0	31	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0

Ref.	alternative constraint	cumulative	disjunctive	diffn	table constraint	regular expression	circuit	nooverlap	endbeforestart	alwaysin	span constraint	bin.?packing	cplex	gurobi	gencode	choco	mistral	or.?tools	OPL	cpo	chuffed	sicstus	eclipse	mini.?zinc
KimCMLLP23 [131]	0	0	0	0	0	0	0	3	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0
KlankeBYE21 [132]	0	4	1	0	0	0	7	5	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0
KovacsTKSG21 [141]	0	6	0	0	0	0	0	0	0	0	0	0	3	21	0	0	0	14	0	0	0	0	0	0
LacknerMMWW21 [148]	0	9	0	0	0	0	0	1	1	0	0	0	4	34	0	0	0	19	9	9	20	0	0	7
Mercier-AubinGQ20 [169]	0	8	2	0	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
MurinR19 [173]	3	0	0	0	0	0	0	5	2	0	0	0	7	0	0	0	0	0	3	0	0	0	0	0
NattafM20 [178]	0	3	0	0	0	0	0	2	0	0	0	0	4	0	0	0	0	0	0	7	0	0	0	0
OuelletQ22 [182]	0	42	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1
PopovicCGNC22 [186]	0	2	0	0	0	0	0	6	0	6	0	0	1	0	0	0	0	0	0	0	0	1	0	0
PovedaAA23 [187]	0	8	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	8	0	0	5
SquillaciPR23 [213]	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
TangB20 [215]	0	0	0	0	0	0	0	0	2	4	1	15	1	0	0	0	0	0	0	2	0	0	0	0
TardivoDFMP23 [216]	0	46	2	0	0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	0	0	13
WessenCS20 [238]	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
WinterMMW22 [239]	1	0	0	0	0	0	0	2	0	0	0	0	10	12	0	0	0	0	0	6	0	0	0	0

## 5 Examples from Books and Courses

## 6 Benchmark Sets

### 6.1 CSPLib

Table 5: CSPLib scheduling problems

Nr	Name	Description	CP System	Data	Code	Solutions	Classification	Constraints
59	Energy Cost Aware Scheduling		-	50 TXT	-	-		
61	RCPSp	Resource-Constrained Scheduling Problem	PyCSP3	PSPLIB	y	PSPLIB	RCPSp	
73	Test Scheduling Problem		ECLiPSe	840 Prolog	y			
77	Stochastic Assignment and Scheduling Problem		OPL MiniZinc	9 DZN	y			

## 7 Other Examples

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