Anton Alexandru Kiss

List of Publications by Year
in descending order

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158 papers	7,099 citations	57719 44 h-index	60583 81 g-index
164 all docs	164 docs citations	164 times ranked	4041 citing authors

#	Article	IF	Citations
1	Solid Acid Catalysts for Biodiesel Production â€“Towards Sustainable Energy. Advanced Synthesis and Catalysis, 2006, 348, 75-81.	2.1	499
2	Dividing wall columns in chemical process industry: A review on current activities. Separation and Purification Technology, 2011, 80, 403-417.	3.9	344
3	Enhanced bioethanol dehydration by extractive and azeotropic distillation in dividing-wall columns. Separation and Purification Technology, 2012, 86, 70-78.	3.9	323
4	Novel efficient process for methanol synthesis by CO 2 hydrogenation. Chemical Engineering Journal, 2016, 284, 260-269.	6.6	240
5	Biodiesel by Catalytic Reactive Distillation Powered by Metal Oxides. Energy & Fuels, 2008, 22, 598-604.	2.5	229
6	Towards energy efficient distillation technologies â€“ Making the right choice. Energy, 2012, 47, 531-542.	4.5	213
7	Distillation technologyÂâ€“Âstill young and full of breakthrough opportunities. Journal of Chemical Technology and Biotechnology, 2014, 89, 479-498.	1.6	201
8	The heterogeneous advantage: biodiesel by catalytic reactive distillation. Topics in Catalysis, 2006, 40, 141-150.	1.3	199
9	A control perspective on process intensification in dividing-wall columns. Chemical Engineering and Processing: Process Intensification, 2011, 50, 281-292.	1.8	181
10	Novel Heat-Pump-Assisted Extractive Distillation for Bioethanol Purification. Industrial & Engineering Chemistry Research, 2015, 54, 2208-2213.	1.8	160
11	Innovative single step bioethanol dehydration in an extractive dividing-wall column. Separation and Purification Technology, 2012, 98, 290-297.	3.9	155
12	Energy efficient control of a BTX dividing-wall column. Computers and Chemical Engineering, 2011, 35, 2896-2904.	2.0	138
13	Modular manufacturing processes: Status, challenges, and opportunities. AICHE Journal, 2017, 63, 4262-4272.	1.8	133
14	A review of biodiesel production by integrated reactive separation technologies. Journal of Chemical Technology and Biotechnology, 2012, 87, 861-879.	1.6	132
15	Innovative dimethyl ether synthesis in a reactive dividing-wall column. Computers and Chemical Engineering, 2012, 38, 74-81.	2.0	126
16	Comparison of Control Strategies for Dividing-Wall Columns. Industrial & Engineering Chemistry Research, 2010, 49, 288-307.	1.8	120
17	Reactive Distillation: Stepping Up to the Next Level of Process Intensification. Industrial & Engineering Chemistry Research, 2019, 58, 5909-5918.	1.8	116
18	Separation technologyâ€“Making a difference in biorefineries. Biomass and Bioenergy, 2016, 95, 296-309.	2.9	111

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19	Reactive absorption in chemical process industry: A review on current activities. Chemical Engineering Journal, 2012, 213, 371-391.	6.6	108
20	Reactive DWC leading the way to FAME and fortune. Fuel, 2012, 95, 352-359.	3.4	108
21	Dynamic optimization of a dividing-wall column using model predictive control. Chemical Engineering Science, 2012, 68, 132-142.	1.9	105
22	Low grade waste heat recovery using heat pumps and power cycles. Energy, 2015, 89, 864-873.	4.5	105
23	A review on process intensification in internally heat-integrated distillation columns. Chemical Engineering and Processing: Process Intensification, 2014, 86, 125-144.	1.8	97
24	Heat-integrated reactive distillation process for synthesis of fatty esters. Fuel Processing Technology, 2011, 92, 1288-1296.	3.7	92
25	Innovative process for fatty acid esters by dual reactive distillation. Computers and Chemical Engineering, 2009, 33, 743-750.	2.0	88
26	Eco-efficient butanol separation in the ABE fermentation process. Separation and Purification Technology, 2017, 177, 49-61.	3.9	87
27	REACTIVE DIVIDING-WALL COLUMNSâ€"HOW TO GET MORE WITH LESS RESOURCES?. Chemical Engineering Communications, 2009, 196, 1366-1374.	1.5	83
28	Enhanced methanol recovery and glycerol separation in biodiesel production â€“ DWC makes it happen. Applied Energy, 2012, 99, 146-153.	5.1	81
29	Rethinking energy use in distillation processes for a more sustainable chemical industry. Energy, 2020, 203, 117788.	4.5	80
30	Novel process for biodiesel by reactive absorption. Separation and Purification Technology, 2009, 69, 280-287.	3.9	78
31	Design and optimization of an ethanol dehydration process using stochastic methods. Separation and Purification Technology, 2013, 105, 90-97.	3.9	76
32	A review on process intensification in <scp>HiGee</scp> distillation. Journal of Chemical Technology and Biotechnology, 2017, 92, 1136-1156.	1.6	71
33	An industrial perspective on membrane distillation processes. Journal of Chemical Technology and Biotechnology, 2018, 93, 2047-2055.	1.6	71
34	Understanding process intensification in cyclic distillation systems. Chemical Engineering and Processing: Process Intensification, 2011, 50, 655-664.	1.8	68
35	Novel applications of dividingâ€wall column technology to biofuel production processes. Journal of Chemical Technology and Biotechnology, 2013, 88, 1387-1404.	1.6	68
36	Optimal design, dynamics and control of a reactive DWC for biodiesel production. Chemical Engineering Research and Design, 2013, 91, 1760-1767.	2.7	67

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37	Optimal design of intensified processes for DME synthesis. Computers and Chemical Engineering, 2017, 105, 142-151.	2.0	67
38	A systematic framework for the feasibility and technical evaluation of reactive distillation processes. Chemical Engineering and Processing: Process Intensification, 2012, 60, 55-64.	1.8	64
39	A systems engineering perspective on process integration in industrial biotechnology. Journal of Chemical Technology and Biotechnology, 2015, 90, 349-355.	1.6	60
40	Dynamics and control of a heat pump assisted extractive dividing-wall column for bioethanol dehydration. Chemical Engineering Research and Design, 2017, 119, 66-74.	2.7	58
41	Separative reactors for integrated production of bioethanol and biodiesel. Computers and Chemical Engineering, 2010, 34, 812-820.	2.0	57
42	Eco-efficient Downstream Processing of Biobutanol by Enhanced Process Intensification and Integration. ACS Sustainable Chemistry and Engineering, 2018, 6, 5452-5461.	3.2	57
43	Design and control of recycle systems by non-linear analysis. Computers and Chemical Engineering, 2007, 31, 601-611.	2.0	54
44	Integrated reactive absorption process for synthesis of fatty esters. Bioresource Technology, 2011, 102, 490-498.	4.8	50
45	Gas Holdup, Axial Dispersion, and Mass Transfer Studies in Bubble Columns. Industrial & Engineering Chemistry Research, 2012, 51, 14268-14278.	1.8	46
46	State multiplicity in CSTRâ€“separatorâ€“recycle polymerisation systems. Chemical Engineering Science, 2002, 57, 535-546.	1.9	45
47	Inherently Safer Design and Optimization of Intensified Separation Processes for Furfural Production. Industrial & Engineering Chemistry Research, 2019, 58, 6105-6120.	1.8	45
48	Dynamics and control of a biodiesel process by reactive absorption. Chemical Engineering Research and Design, 2011, 89, 187-196.	2.7	43
49	Novel Catalytic Reactive Distillation Processes for a Sustainable Chemical Industry. Topics in Catalysis, 2019, 62, 1132-1148.	1.3	42
50	Optimal Economic Design of an Extractive Distillation Process for Bioethanol Dehydration. Energy Technology, 2013, 1, 166-170.	1.8	41
51	Optimal hybrid separations for intensified downstream processing of biobutanol. Separation and Purification Technology, 2017, 185, 149-159.	3.9	39
52	Dynamic modeling and process optimization of an industrial sulfuric acid plant. Chemical Engineering Journal, 2010, 158, 241-249.	6.6	38
53	Microwave plasma emerging technologies for chemical processes. Journal of Chemical Technology and Biotechnology, 2017, 92, 2495-2505.	1.6	37
54	Intensified process for aromatics separation powered by Kaibel and dividing-wall columns. Chemical Engineering and Processing: Process Intensification, 2013, 67, 39-48.	1.8	36

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55	Techno-economic evaluation of the direct conversion of CO2 to dimethyl carbonate using catalytic membrane reactors. Computers and Chemical Engineering, 2016, 86, 136-147.	2.0	35
56	State multiplicity in PFRâ€“separatorâ€“recycle polymerization systems. Chemical Engineering Science, 2003, 58, 2973-2984.	1.9	33
57	Quick assessment of binary distillation efficiency using a heat engine perspective. Energy, 2016, 116, 20-31.	4.5	33
58	Ultrasoundâ€assisted emerging technologies for chemical processes. Journal of Chemical Technology and Biotechnology, 2018, 93, 1219-1227.	1.6	33
59	Novel method for mapping the applicability of reactive distillation. Chemical Engineering and Processing: Process Intensification, 2018, 128, 263-275.	1.8	32
60	Innovative Reactive Distillation Process for the Sustainable Synthesis of Natural Benzaldehyde. ACS Sustainable Chemistry and Engineering, 2018, 6, 14114-14124.	3.2	32
61	Cyclic distillation â€“ Design, control and applications. Separation and Purification Technology, 2014, 125, 326-336.	3.9	31
62	Catalytic cyclic distillation â€“ A novel process intensification approach in reactive separations. Chemical Engineering and Processing: Process Intensification, 2014, 81, 1-12.	1.8	31
63	Pilotâ€scale studies of process intensification by cyclic distillation. AICHE Journal, 2015, 61, 2581-2591.	1.8	29
64	A systematic investigation of microwave-assisted reactive distillation: Influence of microwaves on separation and reaction. Chemical Engineering and Processing: Process Intensification, 2015, 93, 87-97.	1.8	27
65	Eco-efficient processes for biodiesel production from waste lipids. Journal of Cleaner Production, 2019, 239, 118073.	4.6	27
66	Cyclic distillation technology - a mini-review. Journal of Chemical Technology and Biotechnology, 2016, 91, 1215-1223.	1.6	25
67	Optimally designed reactive distillation processes for ecoâ€efficient production of ethyl levulinate. Journal of Chemical Technology and Biotechnology, 2019, 94, 2131-2140.	1.6	23
68	Design of Recycle Systems with Parallel and Consecutive Reactions by Nonlinear Analysis. Industrial & Engineering Chemistry Research, 2005, 44, 576-587.	1.8	21
69	Optimal design and plantwide control of novel processes for diâ€nâ€pentyl ether production. Journal of Chemical Technology and Biotechnology, 2015, 90, 992-1001.	1.6	21
70	Extractant screening for the separation of dichloroacetic acid from monochloroacetic acid by extractive distillation. Separation and Purification Technology, 2012, 98, 206-215.	3.9	20
71	Revamping Dimethyl Ether Separation to a Singleâ€Step Process. Chemical Engineering and Technology, 2013, 36, 1261-1267.	0.9	20
72	Influence of liquid back mixing on a kinetically controlled reactive distillation process. Chemical Engineering Science, 2012, 68, 184-191.	1.9	18

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73	Pinch Point Analysis. Computer Aided Chemical Engineering, 2014, 35, 525-564.	0.3	17
74	Dynamics and control of a heat pump assisted azeotropic dividing-wall column for biobutanol purification. Chemical Engineering Research and Design, 2019, 146, 416-426.	2.7	17
75	Optimal performance of compressionâ€“resorption heat pump systems. Applied Thermal Engineering, 2014, 65, 219-225.	3.0	15
76	Batch Processes. Computer Aided Chemical Engineering, 2014, 35, 449-488.	0.3	15
77	Process Intensification. Computer Aided Chemical Engineering, 2014, 35, 397-448.	0.3	15
78	Advanced control of a reactive distillation column. Computer Aided Chemical Engineering, 2007, 24, 805-810.	0.3	14
79	Enhanced performance of wet compression-resorption heat pumps by using NH3-CO2-H2O as working fluid. Energy, 2017, 124, 531-542.	4.5	14
80	Pilot-scale experimental validation of unsaturated polyesters synthesis by reactive distillation. Chemical Engineering Journal, 2012, 213, 175-185.	6.6	13
81	Enhanced Dimethyl Ether Synthesis by Reactive Distillation in a Dividing-wall Column. Procedia Engineering, 2012, 42, 581-587.	1.2	13
82	Enhanced Down-Stream Processing of Biobutanol in the ABE Fermentation Process. Computer Aided Chemical Engineering, 2016, 38, 979-984.	0.3	13
83	Novel eco-efficient process for dimethyl carbonate production by indirect alcoholysis of urea. Chemical Engineering Research and Design, 2020, 160, 486-498.	2.7	13
84	Novel pervaporation-assisted pressure swing reactive distillation process for intensified synthesis of dimethyl carbonate. Chemical Engineering and Processing: Process Intensification, 2021, 162, 108358.	1.8	13
85	Economic Evaluation of Projects. Computer Aided Chemical Engineering, 2014, 35, 717-755.	0.3	12
86	Dynamic Simulation. Computer Aided Chemical Engineering, 2014, 35, 127-156.	0.3	12
87	Effect of boiling point rankings and feed locations on the applicability of reactive distillation to quaternary systems. Chemical Engineering Research and Design, 2019, 145, 184-193.	2.7	12
88	MODELING AND SIMULATION OF A PERVAPORATION PROCESS FOR FATTY ESTER SYNTHESIS. Chemical Engineering Communications, 2012, 199, 1357-1374.	1.5	11
89	Process engineering advances in pharmaceutical and chemical industries: digital process design, advanced rectification, and continuous filtration. Current Opinion in Chemical Engineering, 2019, 25, 114-121.	3.8	11
90	Process systems engineering developments in Europe from an industrial and academic perspective. Computers and Chemical Engineering, 2020, 138, 106823.	2.0	11

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91	Optimization studies in sulfuric acid production. Computer Aided Chemical Engineering, 2006, , 737-742.	0.3	10
92	fficient Bioethanol Dehydration in Azeotropic and Extractive Dividing-wall Columns. Procedia Engineering, 2012, 42, 566-572.	1.2	10
93	Evaluation of configuration alternatives for multi-product polyester synthesis by reactive distillation. Computers and Chemical Engineering, 2013, 52, 193-203.	2.0	9
94	Techno-economic evaluation of an ultrasound-assisted Enzymatic Reactive Distillation process. Computers and Chemical Engineering, 2017, 105, 123-131.	2.0	9
95	Pilotâ€scale experimental studies on ethanol purification by cyclic stripping. AICHE Journal, 2019, 65, e16673.	1.8	9
96	Chemical Product Design. Computer Aided Chemical Engineering, 2014, , 489-523.	0.3	8
97	Novel Eco-Efficient Process for Methyl Methacrylate Production. Industrial & Engineering Chemistry Research, 2021, 60, 1290-1301.	1.8	8
98	From Batch to Continuous Sustainable Production of 3-Methyl-3-penten-2-one for Synthetic Ketone Fragrances. ACS Sustainable Chemistry and Engineering, 2020, 8, 17201-17214.	3.2	8
99	Introduction in Process Simulation. Computer Aided Chemical Engineering, 2014, 35, 35-71.	0.3	7
100	Modeling, Design and Control of Cyclic Distillation Systems. Procedia Engineering, 2012, 42, 1202-1213.	1.2	6
101	Optimization of an Ethanol Dehydration Process Using Differential Evolution Algorithm. Computer Aided Chemical Engineering, 2013, , 217-222.	0.3	6
102	Integrated Process and Product Design. Computer Aided Chemical Engineering, 2014, , 1-33.	0.3	6
103	Overcoming equilibrium limitations in reactive dividing-wall columns. Computer Aided Chemical Engineering, 2007, 24, 467-472.	0.3	5
104	Biodiesel production by integrated reactive-separation design. Computer Aided Chemical Engineering, 2007, 24, 1283-1288.	0.3	5
105	Biodiesel production by heat-integrated reactive distillation. Computer Aided Chemical Engineering, 2008, , 775-780.	0.3	5
106	Optimal Extractive Distillation Process for Bioethanol Dehydration. Computer Aided Chemical Engineering, 2014, 33, 1333-1338.	0.3	5
107	Enhanced Process for Methanol Production by CO2 Hydrogenation. Computer Aided Chemical Engineering, 2016, , 985-990.	0.3	5
108	Preliminary economic ranking of reactive distillation processes using a navigation method. Computer Aided Chemical Engineering, 2018, 43, 827-832.	0.3	5

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109	A systematic framework for assessing the applicability of reactive distillation for quaternary mixtures using a mapping method. Computers and Chemical Engineering, 2020, 136, 106804.	2.0	5
110	Cyclic distillation - towards energy efficient binary distillation. Computer Aided Chemical Engineering, 2012, , 697-701.	0.3	4
111	Generalised Computational Methods in Thermodynamics. Computer Aided Chemical Engineering, 2014, , 157-200.	0.3	4
112	Phase Equilibria. Computer Aided Chemical Engineering, 2014, 35, 201-251.	0.3	4
113	Novel Process for Conversion of CO2 to Dimethyl Carbonate using Catalytic Membrane Reactors. Computer Aided Chemical Engineering, 2016, , 991-996.	0.3	4
114	Heat pump assisted azeotropic DWC for enhanced biobutanol separation. Computer Aided Chemical Engineering, 2018, 43, 791-796.	0.3	4
115	Ecoâ€efficient Separation of Monoâ€and Dichloroacetic Acid by Thermally Coupled Extractive Distillation. Chemical Engineering and Technology, 2020, 43, 2403-2417.	0.9	4
116	The Manchester perspective on using the Design Project to enhance the education of chemical engineering students. Journal of Chemical Technology and Biotechnology, 2021, 96, 1453-1464.	1.6	4
117	Dynamics and control of a heat pump assisted azeotropic dividing-wall column (HP-A-DWC) for biobutanol purification. Computer Aided Chemical Engineering, 2019, 46, 1339-1344.	0.3	4
118	Process for fatty acid methyl esters by dual reactive distillation. Computer Aided Chemical Engineering, 2007, , 1307-1312.	0.3	3
119	Versatile Biodiesel Production by Catalytic Separative Reactors. Computer Aided Chemical Engineering, 2009, 27, 1689-1694.	0.3	3
120	Heat-Integrated Process for Biodiesel by Reactive Absorption. Computer Aided Chemical Engineering, 2010, 28, 1111-1116.	0.3	3
121	A systematic approach towards applicability of reactive distillation. Computer Aided Chemical Engineering, 2011, 29, 191-195.	0.3	3
122	Enhanced bioethanol dehydration in extractive dividing-wall columns. Computer Aided Chemical Engineering, 2012, , 667-671.	0.3	3
123	Extended rate-based model validation for polyester synthesis by reactive distillation. Computer Aided Chemical Engineering, 2012, 30, 1182-1186.	0.3	3
124	Steady-State Flowsheeting. Computer Aided Chemical Engineering, 2014, 35, 73-125.	0.3	3
125	Process Synthesis by the Hierarchical Approach. Computer Aided Chemical Engineering, 2014, , 253-300.	0.3	3
126	Energy Efficient Bioethanol Purification by Heat Pump Assisted Extractive Distillation. Computer Aided Chemical Engineering, 2015, , 1307-1312.	0.3	3

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127	Enhancing the Separation Efficiency in Acetic Acid Manufacturing by Methanol Carbonylation. Chemical Engineering and Technology, 2021, 44, 1792-1802.	0.9	3
128	Stable plantwide control of recycle systems. Computer Aided Chemical Engineering, 2003, 15, 726-731.	0.3	2
129	Reactive Dividing-Wall Columns - Defying Equilibrium Restrictions. Chemical Product and Process Modeling, 2009, 4, .	0.5	2
130	Biodiesel by Reactive Absorption â€“ Towards Green Technologies. Computer Aided Chemical Engineering, 2009, 26, 847-852.	0.3	2
131	Plantwide Control of a Biodiesel Process by Reactive Absorption. Computer Aided Chemical Engineering, 2010, 28, 535-540.	0.3	2
132	Innovative biodiesel production in a reactive dividing-wall column. Computer Aided Chemical Engineering, 2012, 30, 522-526.	0.3	2
133	Synthesis of Reaction Systems. Computer Aided Chemical Engineering, 2014, 35, 301-343.	0.3	2
134	Plantwide Control. Computer Aided Chemical Engineering, 2014, , 599-647.	0.3	2
135	Health, Safety and Environment. Computer Aided Chemical Engineering, 2014, , 649-678.	0.3	2
136	Equipment Selection and Design. Computer Aided Chemical Engineering, 2014, 35, 757-788.	0.3	2
137	Innovative mapping method for screening reactive distillation designs. Computer Aided Chemical Engineering, 2019, 46, 739-744.	0.3	2
138	Non-linear behaviour of PFR-separator-recycle polymerization systems. Computer Aided Chemical Engineering, 2002, , 229-234.	0.3	1
139	State multiplicity in multi-reaction reactor-separator-recycle systems. Computer Aided Chemical Engineering, 2004, 18, 223-228.	0.3	1
140	Linking experiments to modeling in biodiesel production. Computer Aided Chemical Engineering, 2006, , 731-736.	0.3	1
141	Molecular design based on enhanced topological descriptors. Computer Aided Chemical Engineering, 2006, 21, 931-936.	0.3	1
142	Advanced Control Strategies for Dividing-Wall Columns. Computer Aided Chemical Engineering, 2010, 28, 511-516.	0.3	1
143	Modeling the liquid back mixing characteristics for a kinetically controlled reactive distillation process. Computer Aided Chemical Engineering, 2011, 29, 11-15.	0.3	1
144	Towards FAME and Fortune by Reactive DWC. Procedia Engineering, 2012, 42, 1908-1914.	1.2	1

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145	Selection of heat pump technologies for energy efficient distillation. Computer Aided Chemical Engineering, 2012, , 267-271.	0.3	1
146	Synthesis of Separation Systems. Computer Aided Chemical Engineering, 2014, 35, 345-395.	0.3	1
147	Sustainability Analysis. Computer Aided Chemical Engineering, 2014, 35, 679-702.	0.3	1
148	Control of Cyclic Distillation Systems. Computer Aided Chemical Engineering, 2014, 33, 589-594.	0.3	1
149	Unstable behaviour of plants with recycle. Computer Aided Chemical Engineering, 2003, 14, 431-436.	0.3	0
150	Design and control of recycle systems by non-linear analysis. Computer Aided Chemical Engineering, 2005, , 637-642.	0.3	0
151	Flexible Separative Reactors for Biodiesel Production. Computer Aided Chemical Engineering, 2009, , 1287-1292.	0.3	0
152	Cutting Edge Biodiesel Production by Catalytic Reactive Absorption. Computer Aided Chemical Engineering, 2009, , 945-950.	0.3	0
153	Control and dynamic optimization of a BTX dividing-wall column. Computer Aided Chemical Engineering, 2011, , 447-451.	0.3	0
154	Enhancing multi-component separation of aromatics with Kaibel columns and DWC. Computer Aided Chemical Engineering, 2012, 30, 672-676.	0.3	0
155	Enhanced configurations for polyesters synthesis by reactive distillation. Computer Aided Chemical Engineering, 2013, 32, 457-462.	0.3	0
156	Applied Energy Integration. Computer Aided Chemical Engineering, 2014, 35, 565-598.	0.3	0
157	Process Design Project. Computer Aided Chemical Engineering, 2014, 35, 703-715.	0.3	0
158	Design and control of an energy integrated biodiesel process. Computer Aided Chemical Engineering, 2011, 29, 186-190.	0.3	0