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MAPPING TECHNOLOGICAL TRAJECTORIES AS PATENT CITATION NETWORKS: A STUDY ON THE HISTORY OF FUEL CELL RESEARCH

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290	BM patent evolution map for tracking the development of E-service. 2008,		
289	Research of Knowledge Acquisition and Modeling Method Based on Patent Map. 2008,		1
288	Monitoring the organic structure of technology based on the patent development paths. <i>Technological Forecasting and Social Change</i> , 2009 , 76, 754-768	9.5	96
287	“Chariots of fire”the evolution of tank technology, 1915–1945. 2009 , 19, 545-566		21
286	Mapping technological trajectories as patent citation networks. An application to data communication standards. <i>Economics of Innovation and New Technology</i> , 2009 , 18, 311-336	1.6	114
285	Using patent analyses to monitor the technological trends in an emerging field of technology: a case of carbon nanotube field emission display. <i>Scientometrics</i> , 2010 , 82, 5-19	3	108
284	Trajectory patterns of technology fusion: Trend analysis and taxonomical grouping in nanobiotechnology. <i>Technological Forecasting and Social Change</i> , 2010 , 77, 63-75	9.5	98
283	Visualizing perspectives and trends in robotics based on patent mining. 2010,		3
282	Mapping the importance of the real world: The validity of connectivity analysis of patent citations networks. <i>Research Policy</i> , 2011 , 40, 473-486	7.5	68
281	Direction or mediation? Nexus role in technology adoption. 2011 , 5, 142		1
280	Patent co-citation networks of Fortune 500 companies. <i>Scientometrics</i> , 2011 , 88, 761-770	3	38
279	Identifying missing relevant patent citation links by using bibliographic coupling in LED illuminating technology. <i>Journal of Informetrics</i> , 2011 , 5, 400-412	3.1	21
278	Exploration of the evolution process of IT outsourcing from 1992 to 2011: A main path analysis. 2012,		1
277	Transnational citation, technological diversity and small world in global nanotechnology patenting. <i>Scientometrics</i> , 2012 , 93, 609-633	3	21
276	An emerging paradigm or just another trajectory? Understanding the nature of technological changes using engineering heuristics in the telecommunications switching industry. <i>Research Policy</i> , 2012 , 41, 414-429	7.5	71
275	Structural Differentiation and Its ImplicationsCore/Periphery Structure of the Technological Network. 2012 , 3, 327-342		12
274	The socio-technological history of hydrogen and fuel cells in Sweden 1978–2005; mapping the innovation trajectory. 2012 , 37, 12043-12053		11

273	Knowledge flows [Analyzing the core literature of innovation, entrepreneurship and science and technology studies. <i>Research Policy</i> , 2012 , 41, 1205-1218	7.5	71
272	Whatever works: Uncertainty and technological hybrids in medical innovation. <i>Technological Forecasting and Social Change</i> , 2012 , 79, 932-948	9.5	12
271	Knowledge positions in high-tech markets: Trajectories, standards, strategies and true innovators. <i>Technological Forecasting and Social Change</i> , 2012 , 79, 1192-1216	9.5	57
270	An integrated approach for main path analysis: Development of the Hirsch index as an example. 2012 , 63, 528-542		146
269	Using function-based patent analysis to identify potential application areas of technology for technology transfer. 2013 , 40, 5260-5265		29
268	The bit-economy: An artificial model of open-ended technology discovery. 2013 , 18, 57-67		3
267	Energizing technology: expectations of fuel cells and the hydrogen economy, 1990-2005. 2013 , 29, 33-53		20
266	Recent trend in graphene for optoelectronics. 2013 , 15, 1		16
265	An innovative approach to identify the knowledge diffusion path: the case of resource-based theory. <i>Scientometrics</i> , 2013 , 94, 225-246	3	31
264	Structural and geographical patterns of knowledge networks in emerging technological standards: evidence from the European GNSS industry. <i>Economics of Innovation and New Technology</i> , 2013 , 22, 47-72 ^{1.6}		65
263	The evolutionary ecology of technological innovations. 2013 , 18, 15-27		54
262	A survey of DEA applications. 2013 , 41, 893-902		422
261	Data envelopment analysis 1978-2010: A citation-based literature survey. 2013 , 41, 3-15		334
260	Knowledge patterns and sources of leadership: Mapping the semiconductor miniaturization trajectory. <i>Research Policy</i> , 2013 , 42, 180-195	7.5	37
259	Network structural analysis of technology: a study from patent perspective. 2013 , 4, 214-235		3
258	How a Product's Design Hierarchy Shapes the Evolution of Technological Knowledge Evidence from Patent-Citation Networks in Wind Power. <i>SSRN Electronic Journal</i> , 2014 ,	1	1
257	Dynamic Patterns of Technological Convergence in Printed Electronics Technologies: Patent Citation Network. <i>SSRN Electronic Journal</i> , 2014 ,	1	1
256	Mapping the (R-)Evolution of Technological Fields -- A Semantic Network Approach. <i>SSRN Electronic Journal</i> , 2014 ,	1	

255	Citations with different levels of relevancy: Tracing the main paths of legal opinions. 2014 , 65, 2479-2488		19
254	Do we miscount patent citations? An empirical study on the impact of overlooking the citations to a patent's pre-grant publication. 2014 ,		0
253	A study on knowledge flows of dye-sensitized solar cells patent. 2014 , 16, 229-249		3
252	The Knowledge Diffusion Paths of Corporate Social Responsibility [From 1970 to 2011]. 2014 , 21, 113-128		20
251	Patent keyword network analysis for improving technology development efficiency. <i>Technological Forecasting and Social Change</i> , 2014 , 83, 170-182	9.5	79
250	Technological trajectories in the automotive industry: are hydrogen technologies still a possibility?. <i>Journal of Cleaner Production</i> , 2014 , 66, 328-336	10.3	19
249	Technological barriers and research trends in fuel cell technologies: A citation network analysis. <i>Technological Forecasting and Social Change</i> , 2014 , 82, 66-79	9.5	68
248	Dynamic patterns of technological convergence in printed electronics technologies: patent citation network. <i>Scientometrics</i> , 2014 , 98, 975-998	3	64
247	Technological change in lithium iron phosphate battery: the key-route main path analysis. <i>Scientometrics</i> , 2014 , 100, 97-120	3	25
246	The moderating effects of knowledge characteristics of firms on the financial value of innovative technology products. 2014 , 32, 79-87		26
245	International research networks in pharmaceuticals: Structure and dynamics. <i>Research Policy</i> , 2014 , 43, 333-348	7.5	50
244	CitNetExplorer: A new software tool for analyzing and visualizing citation networks. <i>Journal of Informetrics</i> , 2014 , 8, 802-823	3.1	254
243	Measuring knowledge persistence: a genetic approach to patent citation networks. 2014 , 24, 623-652		39
242	The main paths of medical tourism: From transplantation to beautification. 2014 , 45, 49-58		77
241	Are significant inventions more diversified?. <i>Scientometrics</i> , 2014 , 100, 459-470	3	6
240	Analyzing technology impact networks for R&D planning using patents: combined application of network approaches. <i>Scientometrics</i> , 2014 , 101, 917-936	3	19
239	Analyzing interdisciplinarity of technology fusion using knowledge flows of patents. 2014 , 41, 1955-1963		45
238	Knowledge diffusion path analysis of data quality literature: A main path analysis. <i>Journal of Informetrics</i> , 2014 , 8, 594-605	3.1	46

237	Knowledge dynamics and sources of eco-innovation: Mapping the Green Chemistry community. <i>Technological Forecasting and Social Change</i> , 2014 , 81, 388-402	9.5	35
236	Does industry close the loop?. 2015 , 168, 194-206		0
235	Strategy Transformation Under Technological Convergence: Evidence from the Printed Electronics Industry. <i>SSRN Electronic Journal</i> , 2015 ,	1	2
234	Charting the evolution of biohydrogen production technology through a patent analysis. 2015 , 76, 1-10		5
233	A novel approach to identify research fronts of tourism literature. 2015 ,		1
232	Knowledge Adaptability Evaluation in View of Patent Citation in Technological Evolutionary Process: A Case Study of Fuel Cell. 2015 , 25, 1335-1364		1
231	Strategy transformation under technological convergence: evidence from the printed electronics industry. 2015 , 67, 106		16
230	Essential intellectual property rights and inventors' involvement in standardization. <i>Research Policy</i> , 2015 , 44, 483-492	7.5	34
229	The innovation process of Huawei and ZTE: Patent data analysis. 2015 , 36, 378-393		9
228	Increasing science and technology linkage in fuel cells: A cross citation analysis of papers and patents. <i>Journal of Informetrics</i> , 2015 , 9, 237-249	3.1	29
227	Smart innovation policy: How network position and project composition affect the diversity of an emerging technology. <i>Research Policy</i> , 2015 , 44, 1094-1107	7.5	36
226	Citation-based analysis of literature: a case study of technology acceptance research. <i>Scientometrics</i> , 2015 , 105, 1091-1110	3	14
225	Technological change as evolving citation networks: The analysis of proton exchange membrane fuel cell. 2015 ,		
224	Development of a patent roadmap through the Generative Topographic Mapping and Bass diffusion model. <i>Journal of Engineering and Technology Management - JET-M</i> , 2015 , 38, 53-70	3.7	21
223	Technological advances in the fuel cell vehicle: Patent portfolio management. <i>Technological Forecasting and Social Change</i> , 2015 , 100, 277-289	9.5	22
222	Assessing the industrial opportunity of academic research with patent relatedness: A case study on polymer electrolyte fuel cells. <i>Technological Forecasting and Social Change</i> , 2015 , 90, 469-475	9.5	25
221	Development of patent roadmap based on technology roadmap by analyzing patterns of patent development. <i>Technovation</i> , 2015 , 39-40, 37-52	7.9	56
220	Knowing Where to Go: The Knowledge Foundation for Investments in Energy Innovation. <i>SSRN Electronic Journal</i> , 2016 ,	1	

219	Research and Development of Hepatitis B Drugs: An Analysis Based on Technology Flows Measured by Patent Citations. <i>PLoS ONE</i> , 2016 , 11, e0164328	3.7	5
218	A new approach for main path analysis: Decay in knowledge diffusion. 2016 , 67, 465-476		23
217	An Investigation on the M2M/IoT Trajectory and Its Relationship with Formal Standards. 2016 ,		
216	. 2016 ,		1
215	Analysis of coactivity in the field of fuel cells at institutional and individual levels. <i>Scientometrics</i> , 2016 , 109, 143-158	3	2
214	A systematic retrieval of international competitiveness literature: a bibliometric study. 2016 , 6, 429-457		15
213	The core-peripheral structure of international knowledge flows: evidence from patent citation data. 2016 , 46, 62-79		27
212	Using social network analysis to examine the technological evolution of fermentative hydrogen production from biomass. 2016 , 41, 21573-21582		8
211	Functional technology foresight. A novel methodology to identify emerging technologies. 2016 , 4,		3
210	Unconnected component inclusion technique for patent network analysis: Case study of Internet of Things-related technologies. <i>Journal of Informetrics</i> , 2016 , 10, 967-980	3.1	13
209	Patent-based technology forecasting: case of electric and hydrogen vehicle. 2016 , 12, 20		5
208	Technological Foresight of the Bioethanol Case. 2016 , 181-196		
207	River deep, mountain high: of long run knowledge trajectories within and between innovation clusters. 2016 , lbw035		4
206	Patent Citation Data in Social Science Research: Overview and Best Practices. 2016 ,		15
205	Constructing conceptual trajectory maps to trace the development of research fields. 2016 , 67, 2016-2031		19
204	Exploring the research fronts and main paths of literature: a case study of shareholder activism research. <i>Scientometrics</i> , 2016 , 109, 33-52	3	18
203	How a product design hierarchy shapes the evolution of technological knowledge: Evidence from patent-citation networks in wind power. <i>Research Policy</i> , 2016 , 45, 1195-1217	7.5	53
202	Technology life-cycles in the energy sector: Technological characteristics and the role of deployment for innovation. <i>Technological Forecasting and Social Change</i> , 2016 , 104, 102-121	9.5	130

201	Identification and monitoring of possible disruptive technologies by patent-development paths and topic modeling. <i>Technological Forecasting and Social Change</i> , 2016 , 104, 16-29	9.5	60
200	Internal or external spillovers—Which kind of knowledge is more likely to flow within or across technologies. <i>Research Policy</i> , 2016 , 45, 27-41	7.5	39
199	IT outsourcing research from 1992 to 2013: A literature review based on main path analysis. 2016 , 53, 227-251		61
198	A Dynamic Network Measure of Technological Change. 2017 , 63, 791-817		79
197	Creating value, not wasting resources: sustainable innovation strategies. 2017 , 30, 455-475		5
196	Knowing where to go: The knowledge foundation for investments in renewable energy. 2017 , 25, 124-133		21
195	Patent citation data in social science research: Overview and best practices. 2017 , 68, 1360-1374		100
194	The sectoral configuration of technological innovation systems: Patterns of knowledge development and diffusion in the lithium-ion battery technology in Japan. <i>Research Policy</i> , 2017 , 46, 709-723	7.5	65
193	A hybrid method to trace technology evolution pathways: a case study of 3D printing. <i>Scientometrics</i> , 2017 , 111, 185-204	3	38
192	The knowledge network dynamics in a mobile ecosystem: a patent citation analysis. <i>Scientometrics</i> , 2017 , 111, 717-742	3	12
191	Investigating the dynamics of interdisciplinary evolution in technology developments. <i>Technological Forecasting and Social Change</i> , 2017 , 122, 12-23	9.5	20
190	Economic and technological complexity: A model study of indicators of knowledge-based innovation systems. <i>Technological Forecasting and Social Change</i> , 2017 , 120, 77-89	9.5	30
189	Standards as a driving force that influences emerging technological trajectories in the converging world of the Internet and things: An investigation of the M2M/IoT patent network. <i>Research Policy</i> , 2017 , 46, 1234-1254	7.5	47
188	Variation of Zipf's exponent in one hundred live languages: A study of the Holy Bible translations. 2017 , 381, 2470-2477		21
187	Innovation Dynamics and Industry Structure Under Different Technological Spaces. 2017 , 3, 307-341		7
186	Networks with Hierarchical Structure: Applications to the Patent Domain. 2017 , 761-772		
185	The science of science: From the perspective of complex systems. 2017 , 714-715, 1-73		147
184	Using PageRank in the analysis of technological progress through patents: an illustration for biotechnological inventions. <i>Scientometrics</i> , 2017 , 113, 1407-1438	3	5

183	Trajectory Identification as Proxies for Discerning the Dynamic Nature of Technological Change □ The Case of Electric Vehicles Industry. 2017 , 14, 1740006		2
182	The Geography of Complex Knowledge. 2017 , 93, 1-23		156
181	The main paths of eTourism: trends of managing tourism through Internet. 2017 , 22, 213-231		34
180	Mapping energy-efficient technological advances in home appliances. 2017 , 10, 693-716		6
179	To include or not: the role of review papers in citation-based analysis. <i>Scientometrics</i> , 2017 , 110, 65-76	3	12
178	The CDM framework: knowledge recombination from an evolutionary viewpoint. <i>Economics of Innovation and New Technology</i> , 2017 , 26, 21-41	1.6	4
177	Patent Co-citation networks for high-tech industrial clusters □A case study of silicon valley high-tech industrial clusters. 2017 ,		2
176	Universal network representation for heterogeneous information networks. 2017 ,		4
175	The Knowledge Network Dynamics in a Mobile Ecosystem: A Patent Citation Analysis. <i>SSRN Electronic Journal</i> , 2017 ,	1	
174	Tracing Technological Development Trajectories: A Genetic Knowledge Persistence-Based Main Path Approach. <i>PLoS ONE</i> , 2017 , 12, e0170895	3.7	32
173	What are the concerns? Looking back on 15 years of research in cultural and creative industries. 2018 , 24, 25-44		17
172	. <i>IEEE Access</i> , 2018 , 6, 16119-16137	3.5	17
171	Mobility of Highly Skilled Retirees from Japan to Korea and Taiwan. 2018 , 33, 58-82		1
170	The relation between knowledge accumulation and technical value in interdisciplinary technologies. <i>Technological Forecasting and Social Change</i> , 2018 , 128, 235-244	9.5	9
169	Missing links: Timing characteristics and their implications for capturing contemporaneous technological developments. <i>Journal of Informetrics</i> , 2018 , 12, 259-270	3.1	3
168	Patents and Networks: Case of Discerning the Evolutionary Nature of Technological Change in the Complex Product Industry. 2018 , 93-120		
167	Patents and Networks: Case of Identification of Core Industry Actors for Electric Vehicle Battery by Application of Knowledge Flow. 2018 , 121-146		
166	Topic diffusion analysis of a weighted citation network in biomedical literature. 2018 , 69, 329-342		12

165	A novel approach to explore patent development paths for subfield technologies. 2018 , 69, 410-419		10
164	Uncovering Innovation Features and Emerging Technologies in Molecular Biology through Patent Analysis. 2018 , 1674, 15-34		2
163	The role of patent citations as a footprint of technology. 2018 , 69, 610-618		3
162	Network variations at the intersection of national capability orientation and technological path dependence [patent citation network analysis of the hydrogen energy and nano-tech sectors. 2018 , 25, 809-831		8
161	Mapping Technological Trajectories for Energy Storage Device through Patent Citation Network. 2018 ,		4
160	Assessing Patents based on Their Structural Significance in Patent Citation Network. 2018 ,		1
159	Identifying the Core Knowledge Domains of Emerging Technologies: The Case of New Energy Vehicles. 2018 ,		1
158	Geographical dynamics of knowledge flows: descriptive statistics on inventor network distance and patent citation graphs in the pharmaceutical industry. 2018 , 8, 301		
157	Developmental Trajectories in Electrical Steel Technology Using Patent Information. <i>Sustainability</i> , 2018 , 10, 2728	3.6	11
156	Business-IT Alignment Literature Review. 2018 , 31, 34-53		4
155	Measuring Knowledge Diffusion in Water Resources Research and Development: The Case of Korea. <i>Sustainability</i> , 2018 , 10, 2944	3.6	3
154	Game-Based Research in Education. 2018 ,		
153	Pre-existing technological core and roots for the CRISPR breakthrough. <i>PLoS ONE</i> , 2018 , 13, e0198541	3.7	7
152	Evolution of collaborative networks of solar energy applied technologies. <i>Journal of Cleaner Production</i> , 2018 , 204, 310-320	10.3	16
151	Tracing the Evolving Trends in Electronic Skin (e-Skin) Technology Using Growth Curve and Technology Position-Based Patent Bibliometrics. <i>IEEE Access</i> , 2018 , 6, 26530-26542	3.5	13
150	Extracting and mapping industry 4.0 technologies using wikipedia. 2018 , 100, 244-257		99
149	Knowledge recombination and technological innovation: the important role of cross-disciplinary knowledge. 2018 , 20, 326-352		13
148	Estimating Technology Performance Improvement Rates by Mining Patent Data. <i>SSRN Electronic Journal</i> , 2018 ,	1	9

147	Patent mining and landscaping of emerging recombinant factor VIII through network analysis. 2018 , 36, 585-590		11
146	Mapping extended technological trajectories: integration of main path, derivative paths, and technology junctures. <i>Scientometrics</i> , 2018 , 116, 1439-1459	3	19
145	Comparing the International Knowledge Flow of China's Wind and Solar Photovoltaic (PV) Industries: Patent Analysis and Implications for Sustainable Development. <i>Sustainability</i> , 2018 , 10, 1883	3.6	27
144	Developmental trajectories of new energy vehicle research in economic management: Main path analysis. <i>Technological Forecasting and Social Change</i> , 2018 , 137, 168-181	9.5	20
143	Knowledge flows, changing firms' competences and patent citations: an analysis of the trajectory of IBM. <i>Economics of Innovation and New Technology</i> , 2019 , 28, 317-347	1.6	3
142	International research collaboration: An emerging domain of innovation studies?. <i>Research Policy</i> , 2019 , 48, 149-168	7.5	70
141	Mapping technological development using patent citation trees: an analysis of bogie technology. <i>Technology Analysis and Strategic Management</i> , 2019 , 31, 213-226	3.2	12
140	Quantitative identification of technological paradigm changes using knowledge persistence. <i>PLoS ONE</i> , 2019 , 14, e0220819	3.7	4
139	. <i>IEEE Access</i> , 2019 , 7, 141374-141385	3.5	3
138	Forward search path count as an alternative indirect citation impact indicator. <i>Journal of Informetrics</i> , 2019 , 13, 100977	3.1	7
137	Development strategies for heavy duty electric battery vehicles: Comparison between China, EU, Japan and USA. 2019 , 151, 104413		25
136	Structural decomposition of technological domain using patent co-classification and classification hierarchy. <i>Scientometrics</i> , 2019 , 121, 633-652	3	12
135	Global networks of genetically modified crops technology: a patent citation network analysis. <i>Scientometrics</i> , 2019 , 118, 737-762	3	15
134	Theoretical Background: General Purpose Technology, Pattern of Innovation, and Spin-Out. 2019 , 15-45		
133	A well-tailored centrality measure for evaluating patents and their citations. 2019 , 75, 750-772		3
132	Patent-based network analysis to understand technological innovation pathways and trends. <i>Technology in Society</i> , 2019 , 59, 101134	6.3	8
131	Research trends in proton exchange membrane fuel cells during 2008-2018: A bibliometric analysis. 2019 , 5, e01724		26
130	Range extenders: an innovative approach to range anxiety in electric vehicles. 2019 , 19, 104		2

129	General Purpose Technology, Spin-Out, and Innovation. 2019 ,		0
128	Extending technological trajectories to latest technological changes by overcoming time lags. <i>Technological Forecasting and Social Change</i> , 2019 , 143, 142-153	9.5	6
127	A few notes on main path analysis. <i>Scientometrics</i> , 2019 , 119, 379-391	3	33
126	Quantitative Identification of Technological Discontinuities. <i>IEEE Access</i> , 2019 , 7, 8135-8150	3.5	9
125	Autonomous Vehicle Technology Development: A Patent Survey Based on Main Path Analysis. 2019 ,		
124	Research on the Disciplinary Evolution of Deep Learning and the Educational Revelation. 2019 ,		0
123	Identifying technological sub-trajectories in patent data: the case of photovoltaics. <i>Economics of Innovation and New Technology</i> , 2019 , 28, 407-434	1.6	4
122	AN ECO-SYSTEMS APPROACH TO CONSTRUCTING ECONOMIC COMPLEXITY MEASURES: ENDOGENIZATION OF THE TECHNOLOGICAL DIMENSION USING LOTKA-VOLTERRA EQUATIONS. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , 2019 , 22, 1850023	0.8	6
121	Linking scientific knowledge and technological change: Lessons from wind turbine evolution and innovation. 2019 , 50, 92-105		6
120	The relation between research priorities and societal demands: The case of rice. <i>Research Policy</i> , 2019 , 48, 949-967	7.5	24
119	Early identification of important patents: Design and validation of citation network metrics. <i>Technological Forecasting and Social Change</i> , 2019 , 146, 644-654	9.5	25
118	Are Litigated Patents More Valuable? The Case of LEDs. 2020 , 11, 825-844		0
117	Main path analysis on cyclic citation networks. 2020 , 71, 578-595		8
116	Major Knowledge Diffusion Paths of Megaproject Management: A Citation-Based Analysis. 2020 , 51, 242-261		6
115	Review on emerging research topics with key-route main path analysis. <i>Scientometrics</i> , 2020 , 122, 607-624		19
114	Technological change in fuel cell technologies. 2020 , 3-41		3
113	The overlooked citations: Investigating the impact of ignoring citations to published patent applications. <i>Journal of Informetrics</i> , 2020 , 14, 100997	3.1	1
112	Technological development of key domains in electric vehicles: Improvement rates, technology trajectories and key assignees. <i>Applied Energy</i> , 2020 , 260, 114264	10.7	28

111	Mapping technological trajectories and exploring knowledge sources: A case study of 3D printing technologies. <i>Technological Forecasting and Social Change</i> , 2020 , 161, 120251	9.5	7
110	The Internet of Things Entrepreneurial Ecosystems. 2020 ,		
109	Renewable energy technologies: patent counts and considerations for energy and climate policy in Brazil. 2020 , 1-14		1
108	Technology Fusion Characteristics in the Solar Photovoltaic Industry of South Korea: A Patent Network Analysis Using IPC Co-Occurrence. <i>Sustainability</i> , 2020 , 12, 9084	3.6	4
107	Forecasting technological positioning through technology knowledge redundancy: Patent citation analysis of IoT, cybersecurity, and Blockchain. <i>Technological Forecasting and Social Change</i> , 2020 , 161, 120329	9.5	31
106	Variety patterns in defense and health technological systems: evidence from international trade data. 2020 , 30, 1-40		2
105	Exploring the innovation landscape of bamboo fiber technologies from global patent data perspective. 2020 , 27, 9137-9156		4
104	Technological development trajectory of chromatography: main path analysis based on patent citation network. 2020 , 2, 1		1
103	Revolution on digital twin technology— patent research approach. 2020 , 107, 4687-4704		14
102	Evolutionary network of business models studies and applications in emerging economies. 2020 ,		1
101	Emerging green technologies for vehicle propulsion systems. <i>Technological Forecasting and Social Change</i> , 2020 , 159, 120054	9.5	4
100	Intermediacy of publications. 2020 , 7, 190207		3
99	Academic contribution to industrial innovation by funding type. <i>Scientometrics</i> , 2020 , 124, 169-193	3	10
98	Estimating technology performance improvement rates by mining patent data. <i>Technological Forecasting and Social Change</i> , 2020 , 158, 120100	9.5	4
97	Identifying technology evolution pathways using topic variation detection based on patent data: A case study of 3D printing. 2020 , 118, 102530		6
96	Patent Analytic Citation-Based VSM: Challenges and Applications. <i>IEEE Access</i> , 2020 , 8, 17464-17476	3.5	4
95	Exploring Technology Evolution Pathways to Facilitate Technology Management: From a Technology Life Cycle Perspective. 2020 , 1-13		5
94	A citation network analysis of career mentoring across disciplines: A roadmap for mentoring research in sport. 2020 , 49, 101676		12

93	A structural analysis approach to identify technology innovation and evolution path: a case of m-payment technology ecosystem. 2021 , 25, 477-499		8
92	Hierarchical main path analysis to identify decompositional multi-knowledge trajectories. 2021 , 25, 454-476		4
91	A structured MPA approach to explore technological core competence, knowledge flow, and technology development through social network patentometrics. 2021 , 25, 402-432		8
90	Novel data structure and visualization tool for studying technology evolution based on patent information: The DTFootprint and the TechSpectrogram. <i>World Patent Information</i> , 2021 , 64, 102009	1.4	1
89	Inter-organisational patent opposition network: how companies form adversarial relationships. <i>Japanese Economic Review</i> , 2021 , 72, 145-166	0.5	1
88	Function score-based technological trend analysis. <i>Technovation</i> , 2021 , 101, 102199	7.9	5
87	Patent citations, knowledge flows, and catching-up: Evidences of different national experiences for the period 1982-2006. <i>Science and Public Policy</i> , 2021 , 47, 788-802	1.8	1
86	Patent network analysis in agriculture: a case study of the development and protection of biotechnologies. <i>Economics of Innovation and New Technology</i> , 2021 , 30, 111-133	1.6	4
85	The development of autonomous driving technology: perspectives from patent citation analysis. <i>Transport Reviews</i> , 1-27	9.9	6
84	Developmental Trajectories in Blockchain Technology Using Patent-Based Knowledge Network Analysis. <i>IEEE Access</i> , 2021 , 9, 44704-44717	3.5	2
83	Hydrogen Fuel Cell Technologies for Sustainable Stationary Applications. <i>Advances in Computer and Electrical Engineering Book Series</i> , 2021 , 166-185	0.3	0
82	Technological Trajectory Analysis of Patent Citation Networks: Examining the Technological Evolution of Computer Graphic Processing Systems. <i>The Review of Socionetwork Strategies</i> , 2021 , 15, 1-25	0.6	4
81	The swift knowledge development path of COVID-19 research: the first 150 days. <i>Scientometrics</i> , 2021 , 126, 1-9	3	3
80	Identification of Technology Diffusion by Citation and Main Paths Analysis: The Possibility of Measuring Open Innovation. <i>Journal of Open Innovation: Technology, Market, and Complexity</i> , 2021 , 7, 104	3.7	2
79	Analyzing development patterns in research networks and technology. <i>Review of Evolutionary Political Economy</i> , 2021 , 2, 55-81	0.8	
78	A dynamic approach for identifying technological breakthroughs with an application in solar photovoltaics. <i>Technological Forecasting and Social Change</i> , 2021 , 165, 120534	9.5	4
77	Innovation Processes in Public Research Institutes: AIST, Fraunhofer and ITRI Case Studies. <i>Science, Technology and Society</i> , 097172182199558	1.5	
76	Global research direction on Pt and Pt based electro-catalysts for fuel cells application between 1990 and 2019: A bibliometric analysis. <i>International Journal of Energy Research</i> , 2021 , 45, 15783-15796	4.5	3

75	Do main paths reflect technological trajectories? Applying main path analysis to the semiconductor manufacturing industry. <i>Scientometrics</i> , 2021 , 126, 6443-6477	3	2
74	Cross-country learning from patents: an analysis of citations flows in innovation trajectories. <i>Scientometrics</i> , 2021 , 126, 7917-7936	3	1
73	How cumulative is technological knowledge?. <i>Quantitative Science Studies</i> , 1-27	3.8	
72	NK model-based analysis of technological trajectories: a study on the technological field of computer graphic processing systems. <i>Evolutionary and Institutional Economics Review</i> , 1	0.8	
71	The development of green enterprises: A literature review based on VOSviewer and Pajek. <i>Australian Journal of Management</i> , 031289622110354	2.6	1
70	Developmental trajectories of blockchain research and its major subfields. <i>Technology in Society</i> , 2021 , 66, 101606	6.3	4
69	Technological Improvement Rates and Evolution of Energy-Based Therapeutics.. <i>Frontiers in Medical Technology</i> , 2021 , 3, 714140	1.9	
68	Identification methods and indicators of important patents. <i>Library Hi Tech</i> , 2021 , ahead-of-print,	1.5	0
67	A complex network approach for analyzing early evolution of smart grid innovations in Europe. <i>Applied Energy</i> , 2021 , 298, 117143	10.7	7
66	Assessment of technology integration based on patent analysis □Three archetypal case studies: Computer generated animation, regenerative medicine and computer tomography. <i>World Patent Information</i> , 2021 , 66, 102058	1.4	1
65	The origin of the sharing economy meets the legacy of fractional ownership. <i>Journal of Cleaner Production</i> , 2021 , 319, 128614	10.3	1
64	The Spatio-Temporal Evolution of China's Hydrogen Fuel Cell Vehicle Innovation Network: Evidence From Patent Citation at Provincial Level. <i>Frontiers in Environmental Science</i> , 2021 , 9,	4.8	0
63	Technological improvement rate predictions for all technologies: Use of patent data and an extended domain description. <i>Research Policy</i> , 2021 , 50, 104294	7.5	3
62	Influence difference main path analysis: Evidence from DNA and blockchain domain citation networks. <i>Journal of Informetrics</i> , 2021 , 15, 101186	3.1	2
61	How do new use environments influence a technology's knowledge trajectory? A patent citation network analysis of lithium-ion battery technology. <i>Research Policy</i> , 2021 , 50, 104318	7.5	1
60	Cross-country creativity and knowledge flows of patent acquisitions: Drivers and implications for managers and policy-makers. <i>Journal of Engineering and Technology Management - JET-M</i> , 2021 , 59, 101617	3.7	4
59	A review of progressive advanced polymer nanohybrid membrane in fuel cell application. <i>International Journal of Energy Research</i> , 2020 , 44, 8255-8295	4.5	20
58	Mapping the (R-)Evolution of Technological Fields □A Semantic Network Approach. <i>Lecture Notes in Computer Science</i> , 2014 , 359-383	0.9	3

57	Rise and Rise of Blockchain: A Patent Statistics Approach to Identify the Underlying Technologies. <i>Communications in Computer and Information Science</i> , 2020 , 456-466	0.3	2
56	Unpacking Big Systems -- Natural Language Processing Meets Network Analysis. A Study of Smart Grid Development in Denmark.. <i>SSRN Electronic Journal</i> ,	1	1
55	Dynamic Patterns of Knowledge Flows across Technological Domains: Empirical Results and Link Prediction. <i>SSRN Electronic Journal</i> ,	1	4
54	Quantitative Identification of Technological Discontinuities. <i>SSRN Electronic Journal</i> ,	1	1
53	A Novel Analytic Framework of Technology Mining Using the Main Path Analysis and the Decision-Making Trial and Evaluation Laboratory-Based Analytic Network Process. <i>Mathematics</i> , 2021 , 9, 2448	2.3	0
52	The Economic Geography of Technological Standards: Evidence on the European GNSS Industry. <i>SSRN Electronic Journal</i> ,	1	
51	Scientific and Technological Networks Co-Evolution: A Chain of Dualities Framework. <i>SSRN Electronic Journal</i> ,	1	
50	The Emergence of an Interdisciplinary Scientific Community at the Science-Technology Overlap: Evidence From Particle Therapy of Cancer. <i>SSRN Electronic Journal</i> ,	1	
49	Optimizing Research Progress Trajectories with Semantic Power Graphs. <i>Lecture Notes in Computer Science</i> , 2013 , 708-713	0.9	3
48	Exploratory Study of Applying Historiography and SPLC for Developing Information Services: A Case Study of LED Domain. <i>Journal of the Korean Society for Information Management</i> , 2013 , 30, 273-296		
47	Patent Landscape Analysis Using Family Based Citation. <i>SSRN Electronic Journal</i> ,	1	
46	Innovation Dynamics and Industry Structure Under Different Technological Spaces. <i>SSRN Electronic Journal</i> ,	1	
45	Technological Change and Investments on a Rugged Landscape - An Agent Based Simulation. <i>SSRN Electronic Journal</i> ,	1	1
44	A Complexidade e a Estabilidade da Estrutura do Conhecimento Tecnol3gico na Evolu3 dos Micro-paradigmas.		
43	Pre-existing Technological Core and Roots for the CRISPR Breakthrough.		
42	The Patterns of Growth in Information and Communication Technologies: The Case of the Emerging Internet of Things. 2020 , 13-29		
41	Science and Technology Relatedness: The Case of DNA Nanoscience and DNA Nanotechnology. <i>Economic Complexity and Evolution</i> , 2021 , 29-61	0.2	
40	The Value of Industry Studies: Impact of Luigi Orsenigo's Legacy on the Field of Innovation and Industry Evolution. <i>Economic Complexity and Evolution</i> , 2021 , 89-109	0.2	

39	Forecasting of Radar Technologies Using Patent Information. 2021 ,		
38	Intellectual Structure of the Extreme Poverty Research Field. <i>Advances in Electronic Government, Digital Divide, and Regional Development Book Series</i> , 2022 , 1-20	0.3	
37	Absorption trajectories of 4IR technologies: evidence from Korea. <i>Technology Analysis and Strategic Management</i> , 1-17	3.2	0
36	Exploring scientific trajectories of a large-scale dataset using topic-integrated path extraction. <i>Journal of Informetrics</i> , 2022 , 16, 101242	3.1	0
35	How fast is this novel technology going to be a hit? Antecedents predicting follow-on inventions. <i>Research Policy</i> , 2022 , 51, 104454	7.5	1
34	Knowledge recombination for emerging technological innovations: The case of green shipping. <i>Technovation</i> , 2022 , 114, 102454	7.9	1
33	Mapping technological trajectories as the main paths of knowledge flow: Evidence from printers. <i>Industrial and Corporate Change</i> ,	2.1	1
32	Characteristics and key trends of global electric vehicle technology development: A multi-method patent analysis. <i>Journal of Cleaner Production</i> , 2022 , 338, 130502	10.3	2
31	Temporal motifs in patent opposition and collaboration networks.. <i>Scientific Reports</i> , 2022 , 12, 1917	4.9	1
30	Mapping technological innovation dynamics in artificial intelligence domains: Evidence from a global patent analysis.. <i>PLoS ONE</i> , 2021 , 16, e0262050	3.7	1
29	Investigating Company Technical Development Directions Based on Internal Knowledge Inheritance and Inventor Capabilities: The Case of Samsung Electronics. <i>Sustainability</i> , 2022 , 14, 3117	3.6	
28	A semantic main path analysis method to identify multiple developmental trajectories. <i>Journal of Informetrics</i> , 2022 , 16, 101281	3.1	0
27	Multilayer patent citation networks: A comprehensive analytical framework for studying explicit technological relationships. <i>Technological Forecasting and Social Change</i> , 2022 , 179, 121628	9.5	2
26	Digitalization in Food Supply Chains: A Bibliometric Review and Key-Route Main Path Analysis. <i>Sustainability</i> , 2022 , 14, 83	3.6	7
25	Mapping the Territorial Adaptation of Technological Innovation Systems Trajectories of the Internal Combustion Engine. <i>Sustainability</i> , 2022 , 14, 113	3.6	2
24	Technological improvement rates and recent innovation trajectories in automated advanced composites manufacturing technologies: A patent-based analysis. <i>Composites Part B: Engineering</i> , 2022 , 238, 109888	10	1
23	Technology Life Cycle Embedded Technology Development Path Analysis Method. <i>Procedia Computer Science</i> , 2022 , 202, 289-294	1.6	1
22	Der Chief Information Officer als Forschungsgegenstand: Ein Blick zurück auf vier Jahrzehnte Forschung und ein Ausblick auf zukünftige Perspektiven. <i>Hmd</i> , 1	0.7	1

21	A Data-Driven Approach to Trace the Development of Lean Construction in Building Projects: Topic Shift and Main Paths. <i>Buildings</i> , 2022 , 12, 616	3.2	1
20	How do global manufacturing shifts affect long-term clean energy innovation? A study of wind energy suppliers. <i>Research Policy</i> , 2022 , 51, 104558	7.5	0
19	Technology life cycle analysis: From the dynamic perspective of patent citation networks. <i>Technological Forecasting and Social Change</i> , 2022 , 181, 121760	9.5	1
18	A novel developmental trajectory discovery approach by integrating main path analysis and intermediacy. <i>Journal of Information Science</i> , 016555152211018	2	0
17	What semantic analysis can tell us about long term trends in the global STI policy agenda.		0
16	Knowledge Development Trajectories of Crime Prevention Domain: An Academic Study Based on Citation and Main Path Analysis. 2022 , 19, 10616		
15	Towards more convergent main paths: A relevance-based approach. 2022 , 16, 101317		0
14	Transitions as a coevolutionary process: The urban emergence of electric vehicle inventions. 2022 , 44, 205-225		0
13	Tracing the emergence of new technology: A comparative analysis of five technological domains. 2022 , 184, 122014		1
12	Waste Biomaterials Innovation Markets. 2022 , 93-118		0
11	Exploring Knowledge Trajectories of Accounting Information Systems Using Business Method Patents and Knowledge Persistence-Based Main Path Analysis. 2022 , 10, 3349		0
10	Mapping technological trajectories and exploring knowledge sources: A case study of E-payment technologies. 2023 , 186, 122173		1
9	Identifying technological trajectories in the mining sector using patent citation networks. 2023 , 80, 103130		0
8	Identifying technology lock-in and tracing knowledge source trajectories: a case study of lithography. 1-16		0
7	Firms' influence on the evolution of published knowledge when a science-related technology emerges: the case of artificial intelligence.		0
6	Relational hyperevent models for polyadic interaction networks.		0
5	Extracting the evolutionary backbone of scientific domains: The semantic main path network analysis approach based on citation context analysis.		0
4	Uncovering emerging photovoltaic technologies based on patent analysis. 2023 , 73, 102181		0

- 3 A systemic analysis of the technological trajectory at company level based on patent data: The case of Sanofi's vaccine technology. **2023**, 124, 102746
- 2 Patent Acquisitions in the Healthcare Industry: An Analysis of Learning Mechanisms. **2023**, 20, 4100
- 1 Modelling the large and dynamically growing bipartite network of German patents and inventors.