Publication Report

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Report Generated on April 28, 2024

1 Introduction

This report is a companion document to the main report generated for the extracted information used in the survey of CP and Scheduling. This document is concerned with some of the summary statistics, and with data quality issues that nre highlighted for correction by the authors.

2 Data Quality

This section gives an overall overview of the works covered by the survey. We first look at all works, and consider which entries cannot be full analyzed. We consider the following status outcomes: no DOI, the bib entry does not give a DOI, this typically means that we cannot find the citation and reference counts for the work. A special case is the Thesis type, which typically do not have a DOI assigned by the university. Even entries with a DOI may not be covered, we distinguish entries that are covered by neither Crossref nor Scopus, or entries which are covered by one, but not the other. The OK status indicates that we can find the entry in all our sources.

Note that OpenCitations does not distinguish between a DOI that is not covered, and a DOI for which there are no references or citations. In both cases, an empty list is returned by the query.

We may be able to repair some of the entries by finding a DOI for entries which miss them, or by correcting a mistake in a DOI, where neither Crossref nor Scopus recognizes the entry. Note that the system responses are cached, and missing entries are not repeatedly queried by the system. This means that additions or corrections in the databases that occur after we first queried them for a specific entry are not automatically taken into account. It may be good practice to re-run all queries from time to time to reflect updates in the databases.

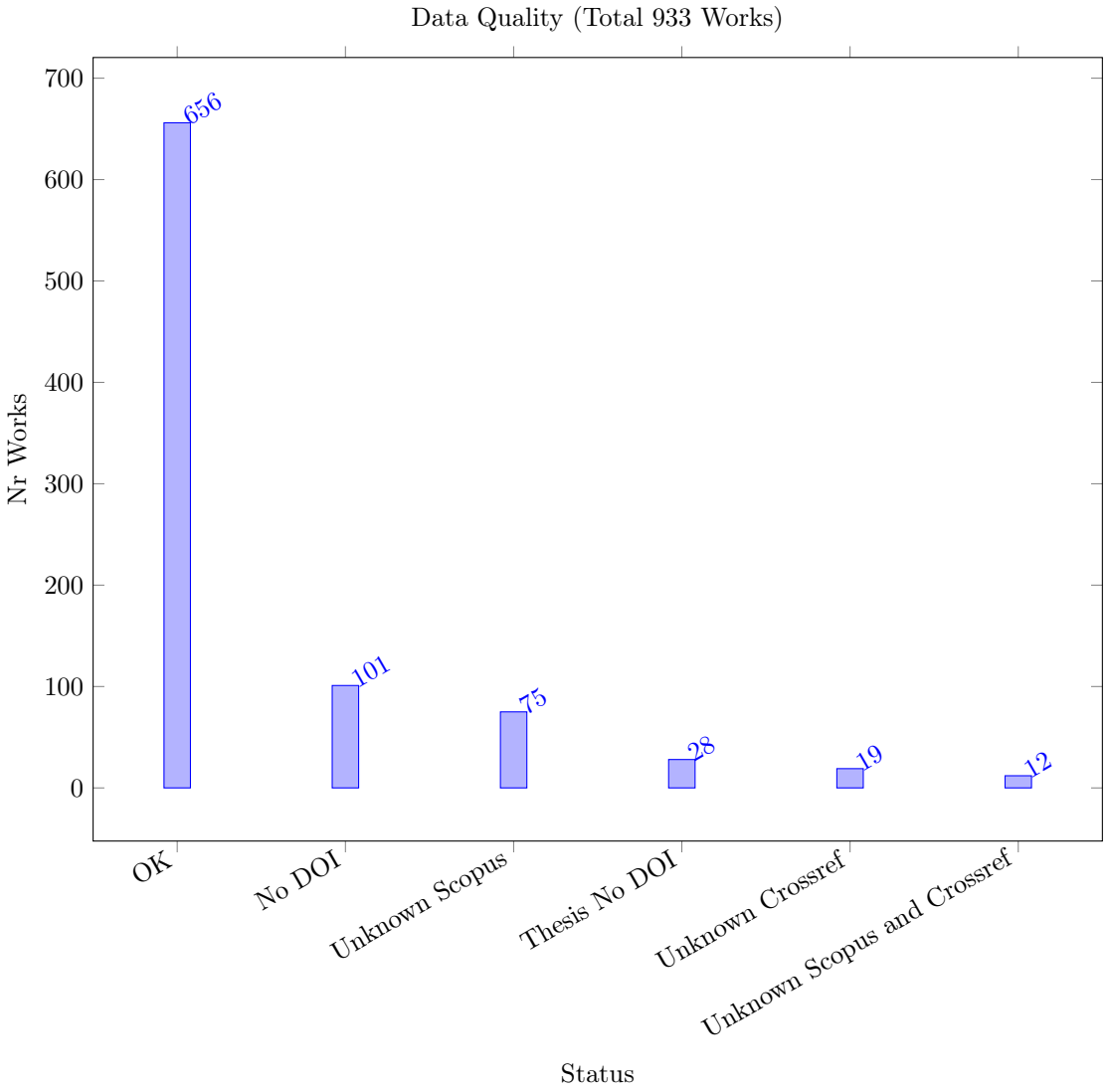

Data Quality (Total 933 Works)
Nr Works
0
100
200
300
400
500
600
700
656
101
75
28
19
12
OK
No DOI
Unknown Scopus
Thesis No DOI
Unknown Crossref
Unknown Scopus and Crossref
Status

Table 1: Works Unknown to Crossref and Scopus

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
abs-2402-00459	10.48550/arxiv.2402.00459	Preprint	2024	0	0	0	null	0	NaN
abs-2305-19888	10.48550/arxiv.2305.19888	Preprint	2023	0	0	0	null	0	NaN
abs-2306-05747	10.48550/arxiv.2306.05747	Preprint	2023	0	0	0	null	0	NaN
abs-2312-13682	10.48550/arxiv.2312.13682	Preprint	2023	0	0	0	null	0	NaN
GokPTGO23	10.1007/s10479-022-04547-	ORJournal	2023	0	0	0	null	0	NaN
abs-2211-14492	10.48550/arxiv.2211.14492	Preprint	2022	0	0	0	null	0	NaN
OrnekOS20	10.1007/s12351-020-00563-	ORJournal	2022	0	0	0	null	0	NaN
OrnekO16	10.23055/ijietap.2016.23.1.1930	OtherJournal	2016	0	0	0	null	0	NaN
OddiRCS11	10.5591/978-1-57735-516-8/ijcai11-332	IJCAI	2011	0	0	0	null	0	NaN
AronssonBK09	10.4230/oasics.atmos.2009.2141	OtherConf	2009	0	0	0	null	0	NaN
KanetAG04	10.1201/9780203489802.ch47	Incoll	2004	0	0	0	null	0	NaN
BeckF98	10.1609/aimag.v19i4.1426	AIJournal	1998	0	0	0	null	0	NaN

Table 2: Works Unknown to Crossref

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
JuvinHHL23	10.4230/lipics.cp.2023.19	CP	2023	0	0	0	null	0	NaN
PovedaAA23	10.4230/lipics.cp.2023.31	CP	2023	0	0	0	null	0	NaN
AalianPG23	10.4230/lipics.cp.2023.6	CP	2023	0	0	0	null	0	NaN
KameugneFND23	10.4230/lipics.cp.2023.20	CP	2023	0	0	0	null	0	NaN
BoudreaultSLQ22	10.4230/lipics.cp.2022.10	CP	2022	0	0	0	null	0	NaN
PopovicCGNC22	10.4230/lipics.cp.2022.34	CP	2022	0	0	0	null	0	NaN
WinterMMW22	10.4230/lipics.cp.2022.41	CP	2022	0	0	0	null	0	NaN
ArmstrongGOS21	10.4230/lipics.cp.2021.16	CP	2021	1	0	1	null	1	100.00
AntuoriHHEN21	10.4230/lipics.cp.2021.14	CP	2021	0	0	1	null	1	100.00
KovacsTKSG21	10.4230/lipics.cp.2021.36	CP	2021	0	0	4	null	4	100.00
LacknerMMWW21	10.4230/lipics.cp.2021.37	CP	2021	0	0	3	null	3	100.00
WangB20	10.3233/faia200114	ECAI	2020	0	0	0	null	0	NaN
BarzegaranZP20	10.4230/oasics.fog-iot.2020.3	OtherConf	2020	0	0	0	null	0	NaN
BridiLBBM16	10.3233/978-1-61499-672-9-1598	ECAI	2016	0	0	0	null	0	NaN
BartakV15	10.5220/0005215701190130	OtherConf	2015	0	0	1	null	1	100.00
TranB12	10.3233/978-1-61499-098-7-774	ECAI	2012	0	0	30	null	30	100.00
PacinoH11	10.5591/978-1-57735-516-8/ijcai11-333	IJCAI	2011	0	0	0	null	0	NaN
OddiRC10	10.3233/978-1-60750-606-5-967	ECAI	2010	0	0	2	null	2	100.00
Hunsberger08	10.3233/978-1-58603-891-5-553	ECAI	2008	0	0	1	null	1	100.00

Table 3: Works Unknown to Scopus

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
Caballero23	10.1007/s10601-023-09357-0	Constraints	2023	0	0	0	null	0	NaN
NaderiBZ23	10.2139/ssrn.4494381	Preprint	2023	0	0	0	null	0	NaN
GunerGSKD23	10.1080/00207543.2023.2226772	OtherJournal	2023	0	3	0	null	3	100.00

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
IklassovMR023	10.24963/ijcai.2023/594	IJCAI	2023	0	0	0	null	0	NaN
HebrardALLCMR22	10.24963/ijcai.2022/643	IJCAI	2022	0	0	0	null	0	NaN
NaderiBZ22	10.2139/ssrn.4140716	Preprint	2022	0	0	0	null	0	NaN
JuvinHL22	10.2139/ssrn.4068164	Preprint	2022	0	0	0	null	0	NaN
NaderiR22	10.1287/ijoo.2021.0056	ORJournal	2022	5	7	0	null	7	100.00
KotaryFH22	10.1609/aaai.v36i7.20685	AAAI	2022	0	2	0	null	2	100.00
QinWSLS21	10.1109/tase.2019.2947398	OtherJournal	2021	12	19	0	null	19	100.00
GeibingerMM21	10.1609/aaai.v35i7.16789	AAAI	2021	0	1	0	null	1	100.00
KletzanderMH21	10.1609/aaai.v35i13.17408	AAAI	2021	2	2	0	null	2	100.00
Pinarbasi21	10.1080/0305215x.2021.1921171	OtherJournal	2021	3	6	0	null	6	100.00
GodetLHS20	10.1609/aaai.v34i02.5510	AAAI	2020	1	1	0	null	1	100.00
FallahiAC20	10.1504/ijams.2020.10026882	OtherJournal	2020	0	0	0	null	0	NaN
AbidinK20	10.1016/j.cor.2020.105069	ORJournal	2020	11	14	0	null	14	100.00
NishikawaSTT19	10.15803/ijnc.9.2_131	OtherJournal	2019	3	3	0	null	3	100.00
BlazewiczEP19	10.1007/978-3-319-99849-7	Incoll	2019	38	38	0	null	38	100.00
PinarbasiAY19	10.1108/aa-12-2018-0262	OtherJournal	2019	16	18	0	null	18	100.00
AlakaPY19	10.1007/s00500-019-04294-8	OtherJournal	2019	15	17	0	null	17	100.00
PachecoPR19	10.24963/ijcai.2019/161	IJCAI	2019	1	1	0	null	1	100.00
BhatnagarKL19	10.24963/ijcai.2019/803	IJCAI	2019	1	1	0	null	1	100.00
RiahiNS018	10.1609/icaps.v28i1.13895	ICAPS	2018	4	4	0	null	4	100.00
AgussurjaKL18	10.1609/aaai.v32i1.12086	AAAI	2018	4	4	0	null	4	100.00
TranVNB17a	10.24963/ijcai.2017/726	IJCAI	2017	1	1	0	null	1	100.00
Bonfietti16	10.3233/ia-160095	AIJournal	2016	0	0	0	null	0	NaN
TranDRFWOVB16	10.1609/socs.v7i1.18390	OtherConf	2016	3	9	0	null	9	100.00
FrankDT16	10.1609/icaps.v26i1.13780	ICAPS	2016	4	5	0	null	5	100.00
KinsellaS0OS16	10.1609/aaai.v30i2.19079	AAAI	2016	1	2	0	null	2	100.00
Siala15	10.1007/s10601-015-9213-y	Constraints	2015	4	3	0	null	4	100.00
Kameugne15	10.1007/s10601-015-9227-5	Constraints	2015	0	0	0	null	0	NaN
LimBTBB15a	10.1609/aaai.v29i1.9236	AAAI	2015	3	3	0	null	3	100.00
FriedrichFMRSST14	10.1007/978-3-319-28697-6_23	OtherConf	2014	3	3	0	null	3	100.00
LipovetzkyBPS14	10.1609/icaps.v24i1.13666	ICAPS	2014	5	5	0	null	5	100.00
LudwigKRBMS14	10.1609/aaai.v28i2.19030	AAAI	2014	1	1	0	null	1	100.00
ChunS14	10.1609/aaai.v28i2.19013	AAAI	2014	3	3	0	null	3	100.00
BonfiettiLM13	10.1609/icaps.v23i1.13608	ICAPS	2013	1	1	0	null	1	100.00
LombardiM13	10.1609/icaps.v23i1.13580	ICAPS	2013	3	0	0	null	3	100.00
TranTDB13	10.1609/icaps.v23i1.13552	ICAPS	2013	2	2	0	null	2	100.00
MalapertCGJLR13	10.1609/icaps.v23i1.13575	ICAPS	2013	0	0	0	null	0	NaN
BajestaniB11	10.1609/icaps.v21i1.13450	ICAPS	2011	2	2	0	null	2	100.00
Milano11	10.1002/9780470400531.eorms0473	Inbook	2011	0	0	0	null	0	NaN
Baptiste09	10.1007/978-3-642-04244-7_1	CP	2009	0	0	0	null	0	NaN
MonetteDH09	10.1609/icaps.v19i1.13356	ICAPS	2009	9	10	0	null	10	100.00
MercierH08	10.1287/ijoc.1070.0226	InformsJC	2008	32	33	0	null	33	100.00
AggounMV08	10.1007/978-0-387-74759-0_396	Inbook	2008	0	0	0	null	0	NaN
Limtanyakul07	10.1007/978-3-540-77903-2_65	OtherConf	2007	2	2	0	null	2	100.00
NeronABCDD06	10.1007/978-0-387-33768-5_7	Inbook	2006	3	3	0	null	3	100.00
RussellU06	10.1016/j.cor.2004.09.029	ORJournal	2006	22	22	0	null	22	100.00
OddiPCC05	10.1007/0-387-27744-7_7	OtherConf	2005	3	3	0	null	3	100.00
DannaP04	10.1007/978-1-4419-8917-8_2	Inbook	2004	2	2	0	null	2	100.00
AjiliW04	10.1007/978-1-4419-8917-8_6	Inbook	2004	4	4	0	null	4	100.00
AggounV04	10.1007/978-3-540-24734-0_15	Inbook	2004	7	7	0	null	7	100.00
HenzMT04	10.1016/s0377-2217(03)00101-2	EJOR	2004	44	47	0	null	47	100.00
Tsang03	10.1023/a:1024016929283	OtherJournal	2003	1	0	0	null	1	100.00
DomdorfPH03	10.1007/978-3-642-18965-4_31	Inbook	2003	0	0	0	null	0	NaN

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
Apt03	10.1017/cbo9780511615320	Background	2003	381	374	0	null	381	100.00
ElkhyariGJ02	10.1007/3-540-46135-3_49	CP	2002	1	1	0	null	1	100.00
ZhuS02	10.1007/3-540-47961-9_69	OtherConf	2002	0	0	0	null	0	NaN
MilanoORT02	10.1287/ijoc.14.4.387.2830	InformsJC	2002	14	14	0	null	14	100.00
Hooker02	10.1287/ijoc.14.4.295.2828	InformsJC	2002	94	93	0	null	94	100.00
Hentenryck02	10.1287/ijoc.14.4.345.2826	Background	2002	48	50	0	null	50	100.00
EastonNT02	10.1007/978-3-540-45157-0_6	OtherConf	2002	48	50	0	null	50	100.00
BaptistePN01	10.1007/978-1-4615-1479-4	Book	2001	296	302	0	null	302	100.00
BosiM2001	10.1002/1097-024x(200101)31:1<17::aid-spe355>3.0.co;2-l	OtherJournal	2001	3	3	0	null	3	100.00
Henz01	10.1287/opre.49.1.163.11193	ORJournal	2001	65	68	0	null	68	100.00
Rgin2001	10.1090/dimacs/057/07	Inbook	2001	28	29	0	null	29	100.00
LopezAKYG00	10.1016/s0947-3580(00)71114-9	OtherJournal	2000	0	0	0	null	0	NaN
Hooker00	10.1002/9781118033036	Book	2000	185	186	0	null	186	100.00
Simonis99	10.1007/3-540-45406-3_6	OtherConf	1999	5	5	0	null	5	100.00
DorndorfPH99	10.1007/978-3-642-58409-1_35	OtherConf	1999	0	0	0	null	0	NaN
DorndorfHP99	10.1007/978-1-4615-5533-9_10	Inbook	1999	18	18	0	null	18	100.00
CarlssonKA99	10.1007/3-540-49201-1_23	OtherConf	1999	1	1	0	null	1	100.00
PembertonG98	10.1090/dimacs/057/06	OtherConf	1998	26	0	0	null	26	100.00
MarriottS98	10.7551/mitpress/5625.001.0001	Background	1998	410	423	0	null	423	100.00
BeckDDF98	10.1002/(sici)1099-1425(199808)1:2<89::aid-jos9>3.0.co;2-h	OtherJournal	1998	9	8	0	null	9	100.00
Simonis95a	10.1007/3-540-60794-3_11	OtherConf	1995	1	1	0	null	1	100.00
BaptisteLV92	10.1109/robot.1992.220195	OtherConf	1992	13	11	0	null	13	100.00
CarlierP90	10.1007/bf03543071	Background	1990	112	114	0	null	114	100.00
CarlierP89	10.1287/mnsc.35.2.164	Background	1989	516	524	0	null	524	100.00
PritskerWW69	10.1287/mnsc.16.1.93	Background	1969	504	518	0	null	518	100.00

2.1 Range of Citation Counts

We get citation counts for the works included in the survey from different sources. OpenCitations provides the set of papers citing a reference, but only if both have DOIs. Crossref gives a count of how many papers cite a reference, they include some papers without DOI. Scopus gives a citation count, but does not give access to the actual citations. In this table we show the works with the largest range of citation count, excluding all background works. A typical issue is that one source does not cover the work, and has a zero count. An alternative is where papers with many citations give a slightly different count depending on which links are included in their database.

The results seem to indicate the using multiple sources is required, to avoid leaving out works that are not covered by one specific source. Note that the WoS numbers are only present for a few works, we show them, but do not include them in computing range.

Table 4: Works with largest Range of Citation Counts

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
BaptistePN01	10.1007/978-1-4615-1479-4	Book	2001	296	302	0	null	302	100.00
Hooker00	10.1002/9781118033036	Book	2000	185	186	0	null	186	100.00
BensanaLV99	10.1023/a:1026488509554	Constraints	1999	99	0	150	null	150	100.00
JainM99	10.1016/s0377-2217(98)00113-1	EJOR	1999	490	503	630	null	140	22.22
SakkoutW00	10.1023/a:1009856210543	Constraints	2000	73	0	105	null	105	100.00
Hooker02	10.1287/ijoc.14.4.295.2828	InformsJC	2002	94	93	0	null	94	100.00

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
MintonJPL92	10.1016/0004-3702(92)90007-k	AIJournal	1992	437	440	525	null	88	16.76
BaptistePN99	10.1023/a:1018995000688	ORJournal	1999	72	0	85	null	85	100.00
OhrimenkoSC09	10.1007/s10601-008-9064-x	Constraints	2009	127	128	198	null	71	35.86
BlazewiczDP96	10.1016/0377-2217(95)00362-2	EJOR	1996	344	357	412	null	68	16.50
Henz01	10.1287/opre.49.1.163.11193	ORJournal	2001	65	68	0	null	68	100.00
RodosekWH99	10.1023/a:1018904229454	ORJournal	1999	53	0	67	null	67	100.00
ArtiguesDN08	10.1002/9780470611227	Book	2008	63	0	0	null	63	100.00
BaptisteP00	10.1023/a:1009822502231	Constraints	2000	46	0	62	null	62	100.00
BeldiceanuC94	10.1016/0895-7177(94)90127-9	OtherJournal	1994	167	169	223	null	56	25.11
LaborieRSV18	10.1007/s10601-018-9281-x	Constraints	2018	148	178	203	null	55	27.09
HookerO03	10.1007/s10107-003-0375-9	OtherJournal	2003	317	333	371	null	54	14.56
MengZRZL20	10.1016/j.cie.2020.106347	OtherJournal	2020	100	133	152	null	52	34.21
Wallace96	10.1007/bf00143881	Constraints	1996	87	89	138	null	51	36.96
NuijtenP98	10.1023/a:1009687210594	OtherJournal	1998	42	0	50	null	50	100.00
EastonNT02	10.1007/978-3-540-45157-0_6	OtherConf	2002	48	50	0	null	50	100.00
Laborie03	10.1016/s0004-3702(02)00362-4	AIJournal	2003	128	129	175	null	47	26.86
HenzMT04	10.1016/s0377-2217(03)00101-2	EJOR	2004	44	47	0	null	47	100.00
BeckR03	10.1023/a:1021849405707	ORJournal	2003	29	0	45	null	45	100.00
AchterbergBKW08	10.1007/978-3-540-68155-7_4	CPAIOR	2008	80	80	125	null	45	36.00
JainG01	10.1287/ijoc.13.4.258.9733	InformsJC	2001	279	284	321	null	42	13.08
Laborie09	10.1007/978-3-642-01929-6_12	CPAIOR	2009	53	52	91	null	39	42.86
KendallKRU10	10.1016/j.cor.2009.05.013	ORJournal	2010	181	186	220	161	39	17.73
BlazewiczEP19	10.1007/978-3-319-99849-7	Incoll	2019	38	38	0	null	38	100.00
HarjunkoskiMBC14	10.1016/j.compchemeng.2013.12.001	OtherJournal	2014	381	393	418	null	37	8.85
SadehF96	10.1016/0004-3702(95)00098-4	AIJournal	1996	95	97	131	null	36	27.48
BeckW07	10.1613/jair.2080	AIJournal	2007	27	31	61	null	34	55.74
Ham18	10.1016/j.trc.2018.03.025	OtherJournal	2018	164	192	197	null	33	16.75
MercierH08	10.1287/ijoc.1070.0226	InformsJC	2008	32	33	0	null	33	100.00
PerronSF04	10.1007/978-3-540-30201-8_35	CP	2004	34	34	67	null	33	49.25
SchildW00	10.1023/a:1009804226473	Constraints	2000	23	0	32	null	32	100.00
CorreaLR07	10.1016/j.cor.2005.07.004	ORJournal	2007	106	114	137	null	31	22.63
LiW08	10.1007/s10951-008-0079-3	OtherJournal	2008	113	123	144	null	31	21.53
TranB12	10.3233/978-1-61499-098-7-774	ECAI	2012	0	0	30	null	30	100.00
Thorsteinsson01	10.1007/3-540-45578-7_2	CP	2001	67	68	97	null	30	30.93
Rgin2001	10.1090/dimacs/057/07	Inbook	2001	28	29	0	null	29	100.00
AggounB93	10.1016/0895-7177(93)90068-a	OtherJournal	1993	187	191	214	null	27	12.62
PembertonG98	10.1090/dimacs/057/06	OtherConf	1998	26	0	0	null	26	100.00
Beck10	10.1007/978-3-642-15396-9_10	CP	2010	19	21	45	null	26	57.78
NuijtenA96	10.1016/0377-2217(95)00354-1	EJOR	1996	65	65	90	null	25	27.78
VilimLS15	10.1007/978-3-319-18008-3_30	CPAIOR	2015	31	31	55	null	24	43.64
Rodriguez07	10.1016/j.trb.2006.02.006	OtherJournal	2007	117	121	141	null	24	17.02
Hooker07	10.1287/opre.1060.0371	ORJournal	2007	181	197	205	null	24	11.71
MengGRZSC22	10.1016/j.swevo.2022.101058	OtherJournal	2022	38	56	62	null	24	38.71
Davis87	10.1016/0004-3702(87)90091-9	AIJournal	1987	308	312	332	null	24	7.23

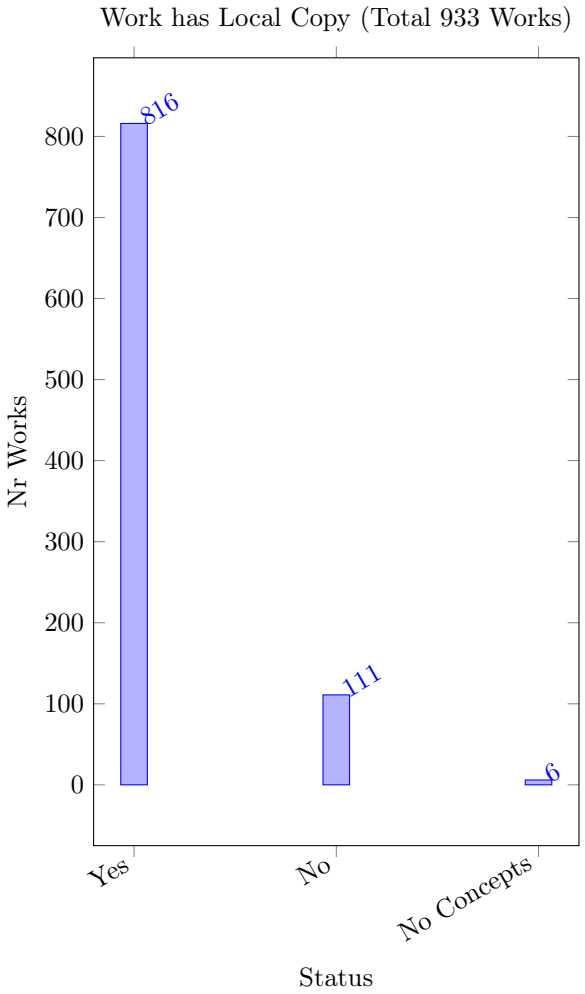
We only have Web of Science data in a few bibtex entries, we here try to evaluate their citation numbers on those bib entries which are from WoS.

Table 5: Works with WoS Citation Counts

Key	DOI	Source Group	Year	Nr Citations	Crossref Citations	Scopus Citations	WoS Citations	Range Citations	Range Percentage
KendallKRU10	10.1016/j.cor.2009.05.013	ORJournal	2010	181	186	220	161	39	17.73
MeskensDL13	10.1016/j.dss.2012.10.019	OtherJournal	2013	102	102	116	103	14	12.07
RasmussenT07	10.1016/j.ejor.2005.10.063	EJOR	2007	60	62	71	53	11	15.49
Ribeiro12	10.1111/j.1475-3995.2011.00819.x	OtherJournal	2012	47	52	54	41	7	12.96
ElfJR03	10.1016/s0167-6377(03)00025-7	OtherJournal	2003	41	41	45	34	4	8.89
Trick03	10.1007/978-3-540-45157-0_4	OtherConf	2003	22	24	39	34	17	43.59
RasmussenT06	10.1007/11757375_15	CPAIOR	2006	10	12	19	11	9	47.37
FelizariAL09	10.1016/s1570-7946(05)80013-6	OtherConf	2009	7	7	12	1	5	41.67
MagataoAN05	10.1016/s1570-7946(05)80013-6	OtherConf	2005	7	7	12	12	5	41.67
RasmussenT09	10.1007/s10479-008-0384-4	ORJournal	2009	8	9	9	8	1	11.11
Trick11	10.1007/978-1-4419-1644-0_15	Incoll	2011	2	2	5	5	3	60.00
LiuLH19a	10.5220/0007252300290039	OtherConf	2019	3	3	4	4	1	25.00
SuCC13	10.1016/j.cie.2013.02.021	OtherJournal	2013	2	2	4	1	2	50.00
ZengM12	10.1016/j.cor.2011.10.004	ORJournal	2012	3	3	4	3	1	25.00
GhandehariK22	10.1016/j.apm.2022.01.001	OtherJournal	2022	4	4	4	3	0	0.00
BulckG22	10.1007/s10951-021-00717-3	OtherJournal	2022	2	3	3	3	1	33.33
Perron05	10.1007/11564751_67	CP	2005	1	1	2	1	1	50.00
LiuLH18	10.1007/978-3-030-05918-7_7	OtherConf	2018	2	2	1	1	1	50.00
MeskensDHG11	n/a	OtherConf	2011	0	0	0	null	0	NaN
NaqviAIAAA22	10.32604/cmc.2022.019653	OtherJournal	2022	0	0	0	0	0	NaN
KonowalenkoMM19	10.1109/tla.2019.8932340	OtherJournal	2019	0	0	0	0	0	NaN

2.2 Local Copies

The tool relies on local pdf copies of works to perform a detailed analysis of the content of the work. We have collected our own private copies of works for that purpose. The following plot shows how many entries do not have a local copy, or which do not extract any concepts from the local copy. A detailed list of all missing entries is given in the main report. Note that in some cases we use an open access version of the work, which might differ slightly from the published version.



2.3 Orphan Files

The following list shows entries for which we have a pdf file in the works directory, but the name of hte file does not match any key in the bibliography. These orphans should be resolved, either by correcting the name, or adding a bib entry for the work, or by removing the file, if it is not required.

If there are no files listed, then all pdf files in the works directory correspond to a bib entry, and no clean-up is required.

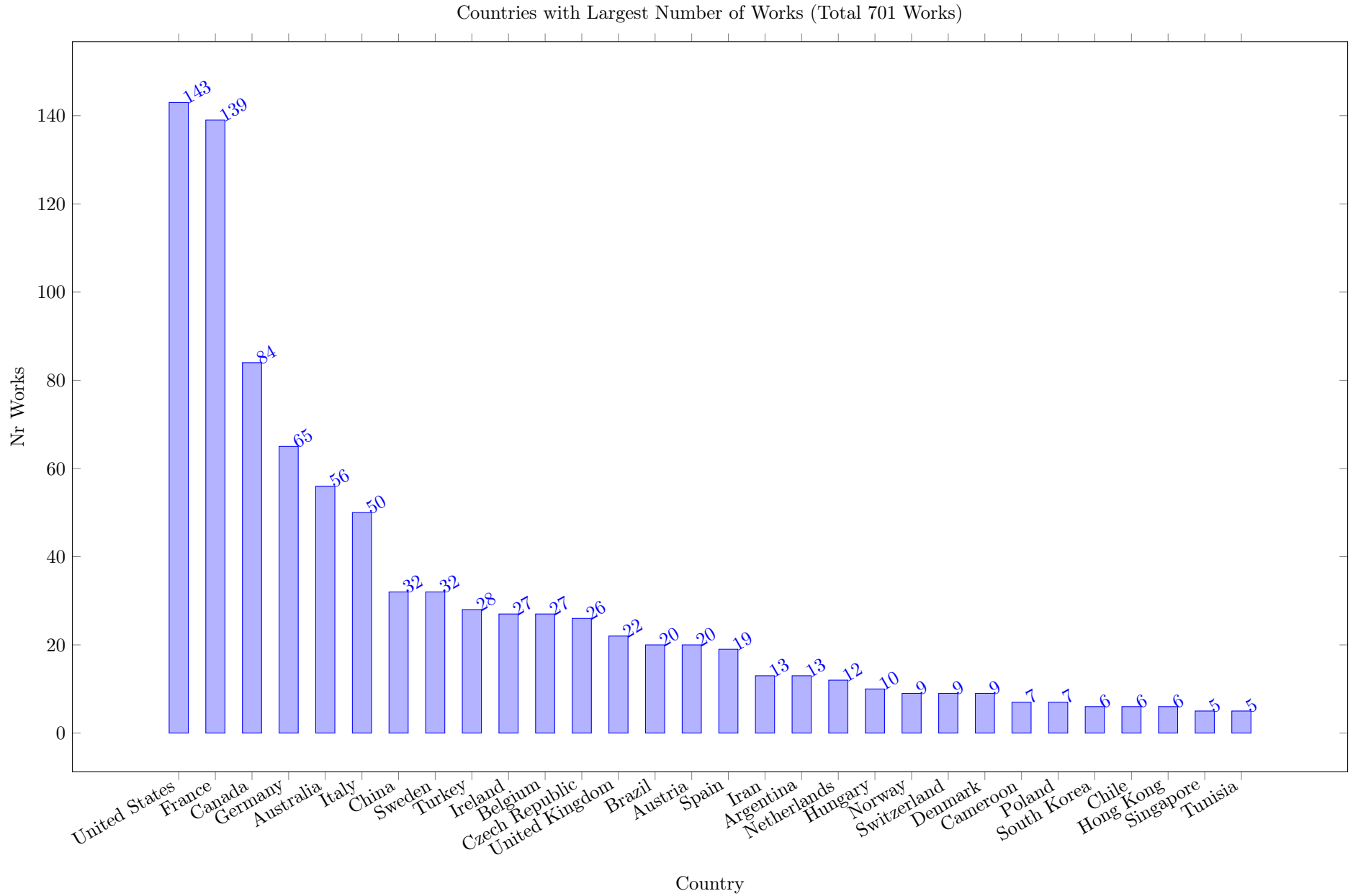
Table 6: Orphan Files

Key	File
Schreuder92	Schreuder92.pdf

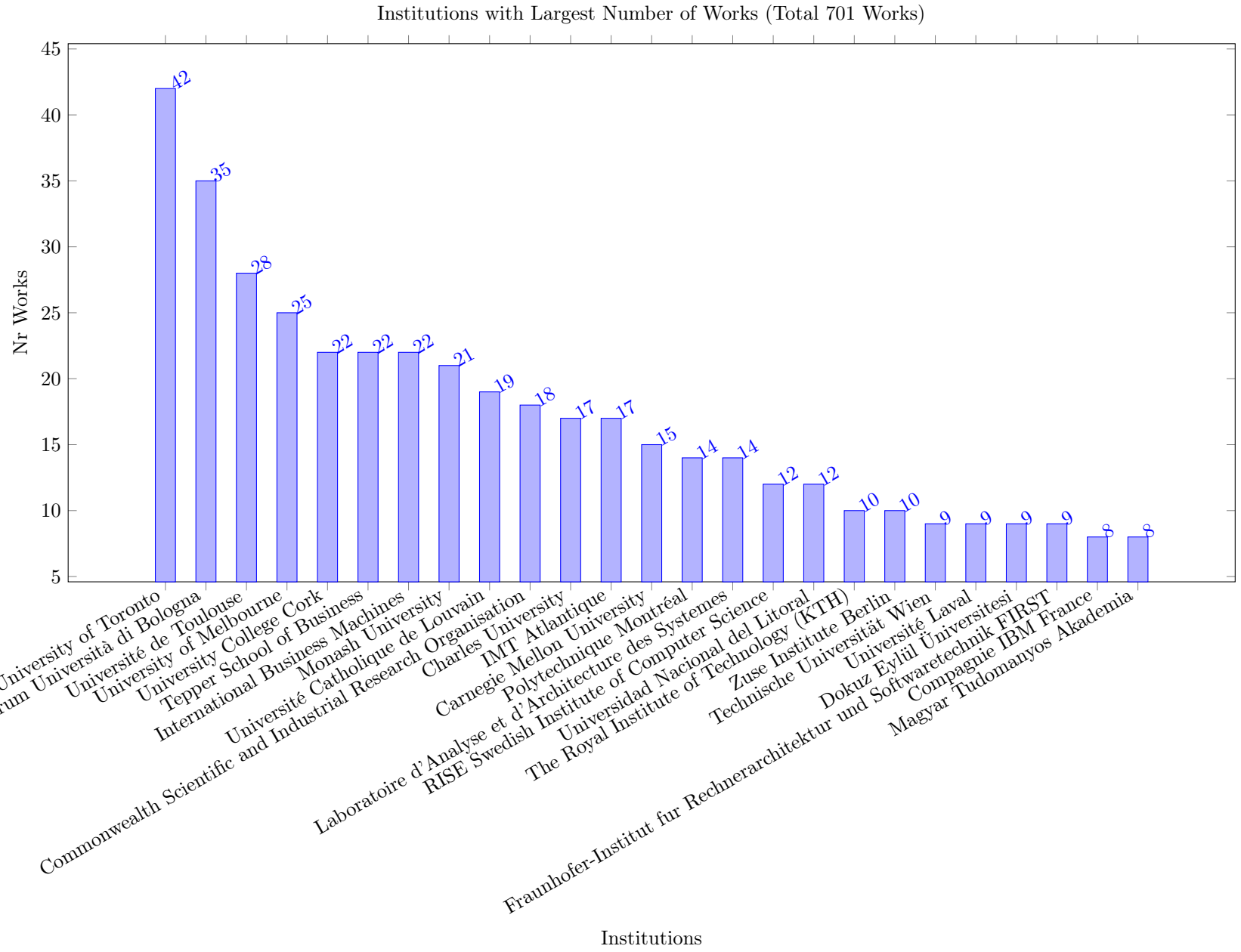
3 Works by Location

This section analyzes papers by affiliation, which is given by the Scopus data only. Only works which are covered by Scopus are included. We first present the number of papers by country. A paper is counted in this analysis (once), if at least one of the affiliations is from the country. Multiple affiliations from the same country only count once. The 30 countries with the largest counts are shown.

Note that one work will be counted for multiple countries, if the affiliations are from different countries. So the sum of the bar heights typically exceeds the total number of works considered.

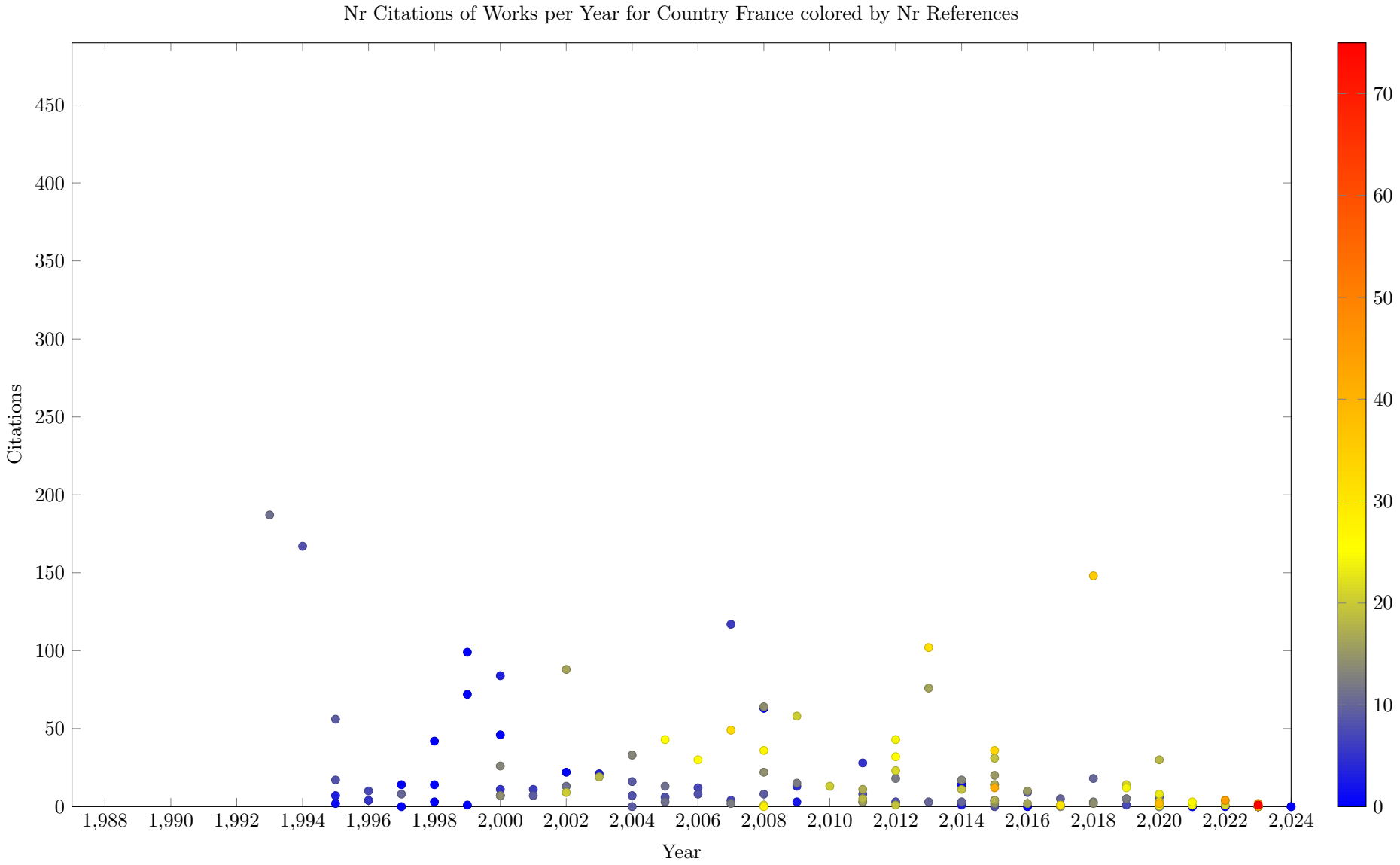

Countries with Largest Number of Works (Total 701 Works)
Nr Works
0
20
40
60
80
100
120
140
143
139
84
65
56
50
32
32
28
27
27
26
22
20
20
19
13
13
12
10
9
9
9
7
7
6
6
6
5
5
United States
France
Canada
Germany
Australia
Italy
China
Sweden
Turkey
Ireland
Belgium
Czech Republic
United Kingdom
Brazil
Austria
Spain
Iran
Argentina
Netherlands
Hungary
Norway
Switzerland
Denmark
Cameroon
Poland
South Korea
Chile
Hong Kong
Singapore
Tunisia
Country

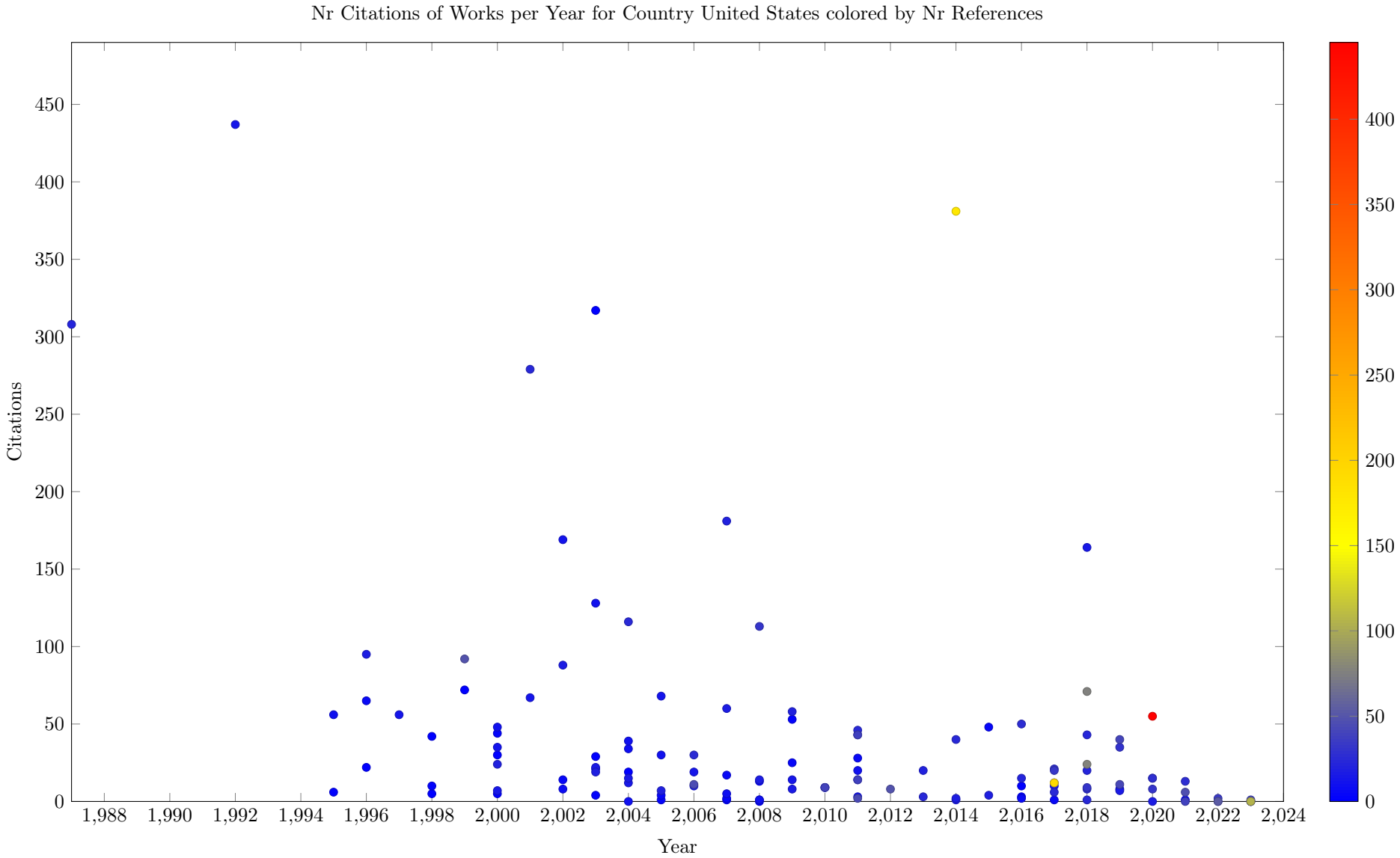
The next plot shows the number of papers associated to institutions, as stated in the Scopus affiliation. A work is counted, if at least one of the affiliations is from a given institution. Due to the format of the Scopus data, we cannot fractionally assign a paper based on the author affiliations, each paper is counted one for every institution for which an affiliation is given. If some author has multiple affiliations listed, we (mis)count the work for each of them.


Institutions with Largest Number of Works (Total 701 Works)
Nr Works
45
40
35
30
25
20
15
10
5
42
35
28
25
22
22
22
21
19
18
17
17
15
14
14
12
12
10
10
9
9
9
9
8
8
University of Toronto
Alma Mater Studiorum Università di Bologna
Université de Toulouse
University of Melbourne
University College Cork
Tepper School of Business
International Business Machines
Monash University
Université Catholique de Louvain
Commonwealth Scientific and Industrial Research Organisation
Charles University
IMT Atlantique
Carnegie Mellon University
Polytechnique Montréal
Laboratoire d'Analyse et d'Architecture des Systemes
RISE Swedish Institute of Computer Science
Universidad Nacional del Litoral
The Royal Institute of Technology (KTH)
Zuse Institute Berlin
Technische Universität Wien
Université Laval
Dokuz Eylül Üniversitesi
Fraunhofer-Institut fur Rechnerarchitektur und Softwaretechnik FIRST
Compagnie IBM France
Magyar Tudomanyos Akademia
Institutions

The following plots show for the top 30 countries when the works included were published, and how many citations (OpenCitation count) each paper had. The scatter plots are colored by the number of references (OpenCitation count), this help to identify surveys more easily. The plot gives an indication in which period the work from the country falls, and how influential the published works are. The x and y ranges of all plots are uniform to allow comparison between plots.

It would be nice to have tooltips on the plots, so identify specific works in the plots. This is currently not supported by the framework library used.


Nr Citations of Works per Year for Country France colored by Nr References
Citations
0
50
100
150
200
250
300
350
400
450
Year
1,988
1,990
1,992
1,994
1,996
1,998
2,000
2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020
2,022
2,024
0
10
20
30
40
50
60
70


Nr Citations of Works per Year for Country United States colored by Nr References
Citations
0
50
100
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200
250
300
350
400
450
Year
1,988
1,990
1,992
1,994
1,996
1,998
2,000
2,002
2,004
2,006
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2,010
2,012
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50
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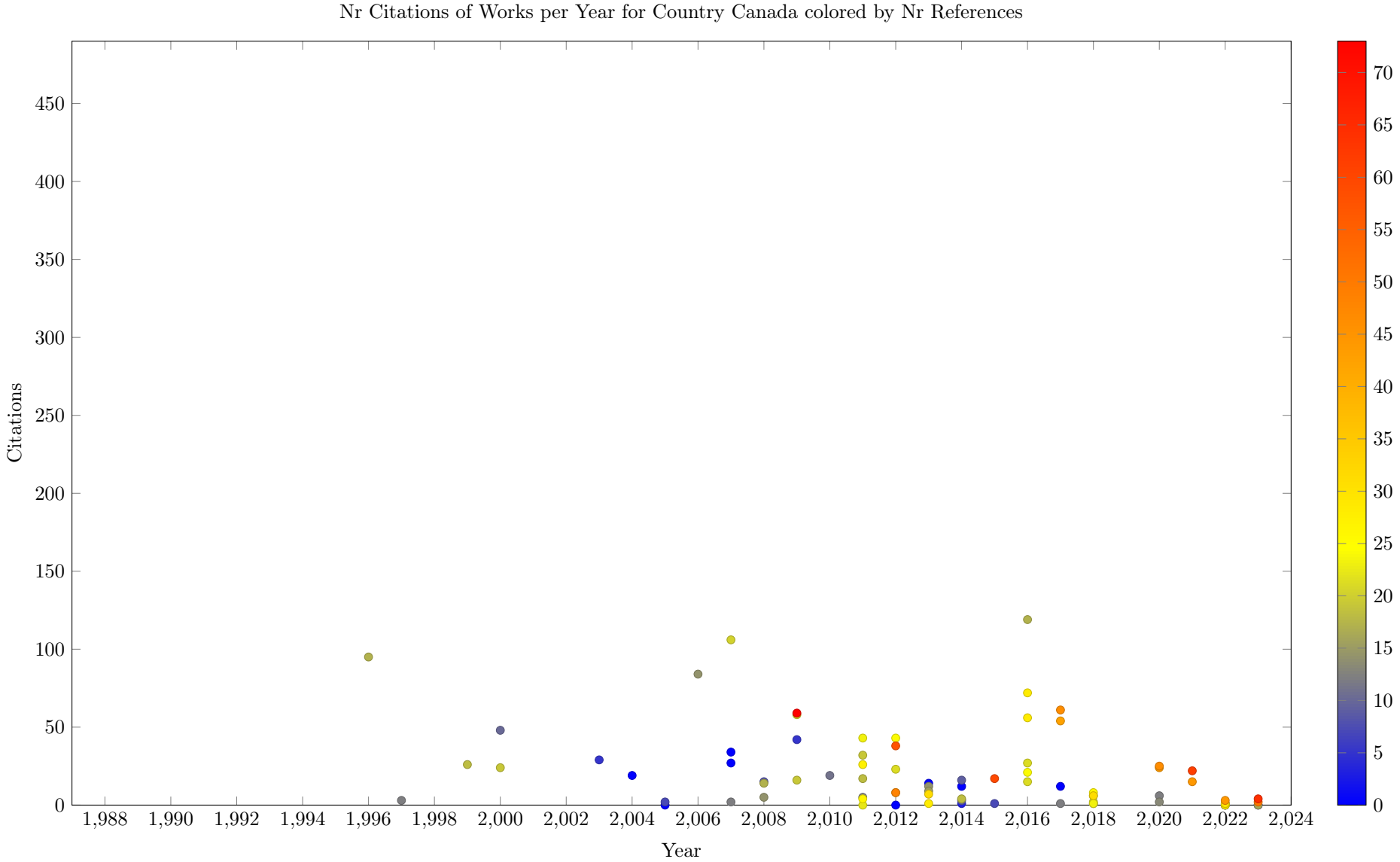
Nr Citations of Works per Year for Country Canada colored by Nr References
Citations
0
50
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Year
1,988
1,990
1,992
1,994
1,996
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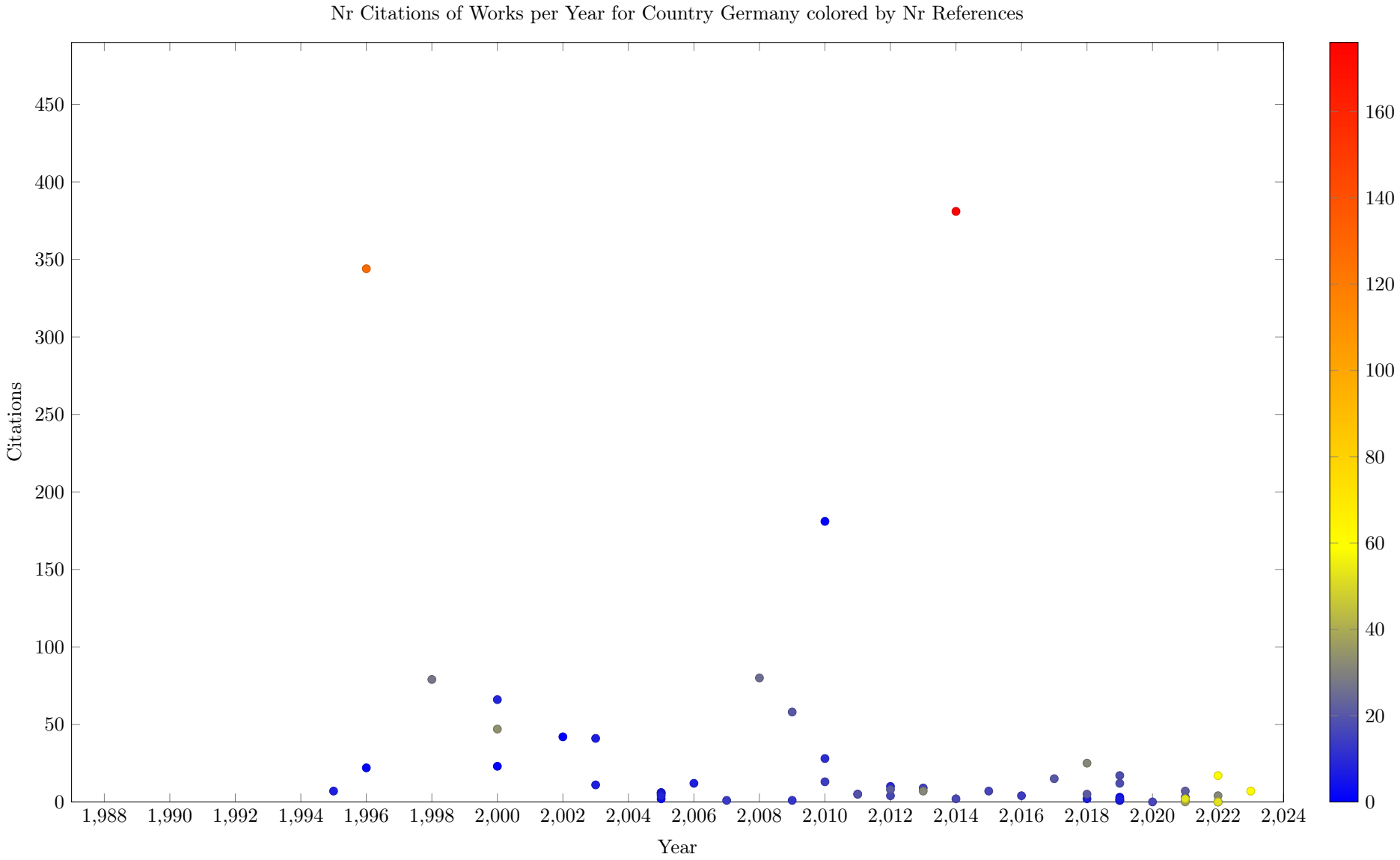
45
50
55
60
65
70


Nr Citations of Works per Year for Country Germany colored by Nr References
Citations
0
50
100
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400
450
Year
1,988
1,990
1,992
1,994
1,996
1,998
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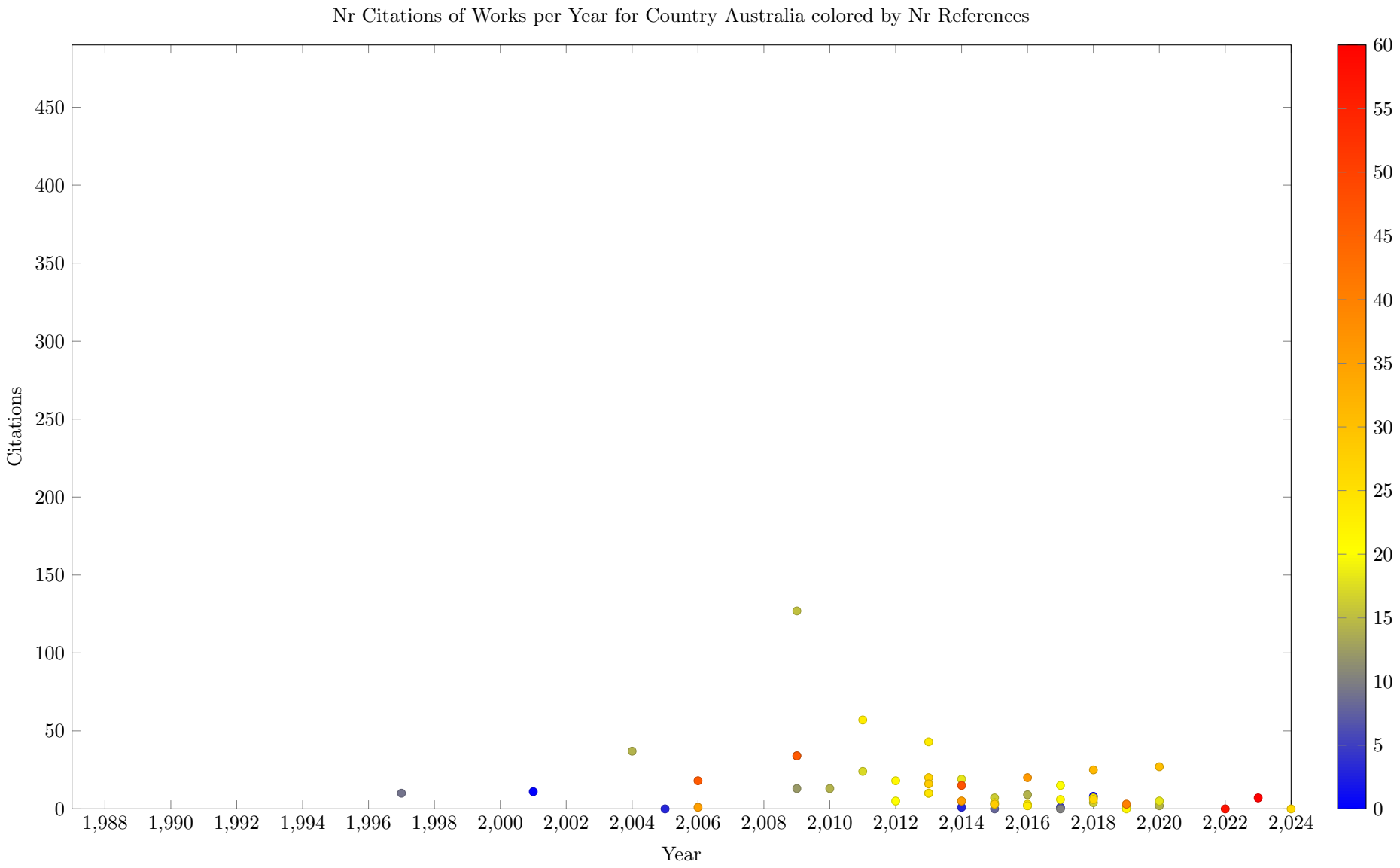
20
40
60
80
100
120
140
160


Nr Citations of Works per Year for Country Australia colored by Nr References
Citations
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Year
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1,990
1,992
1,994
1,996
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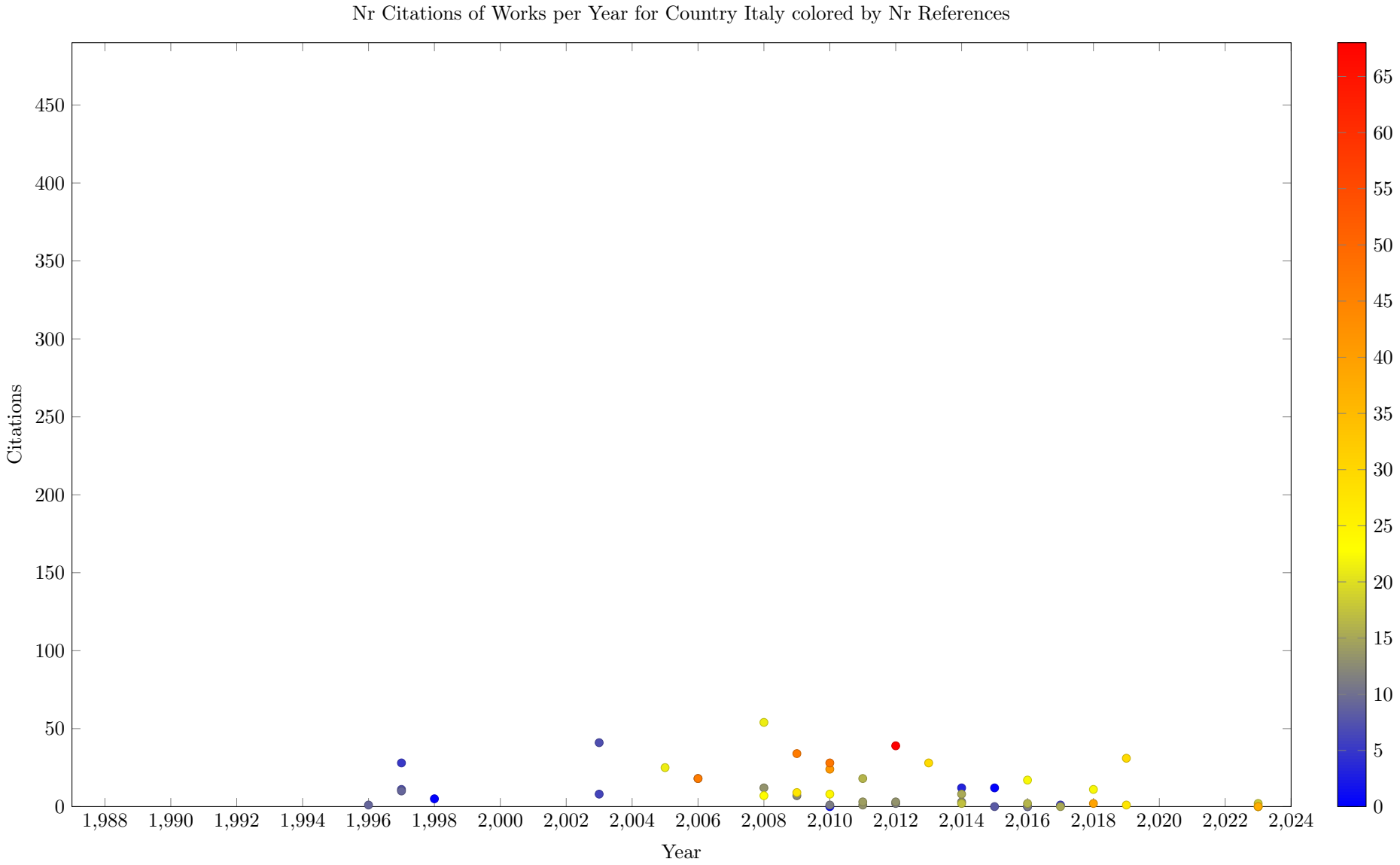
Nr Citations of Works per Year for Country Italy colored by Nr References
Citations
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Year
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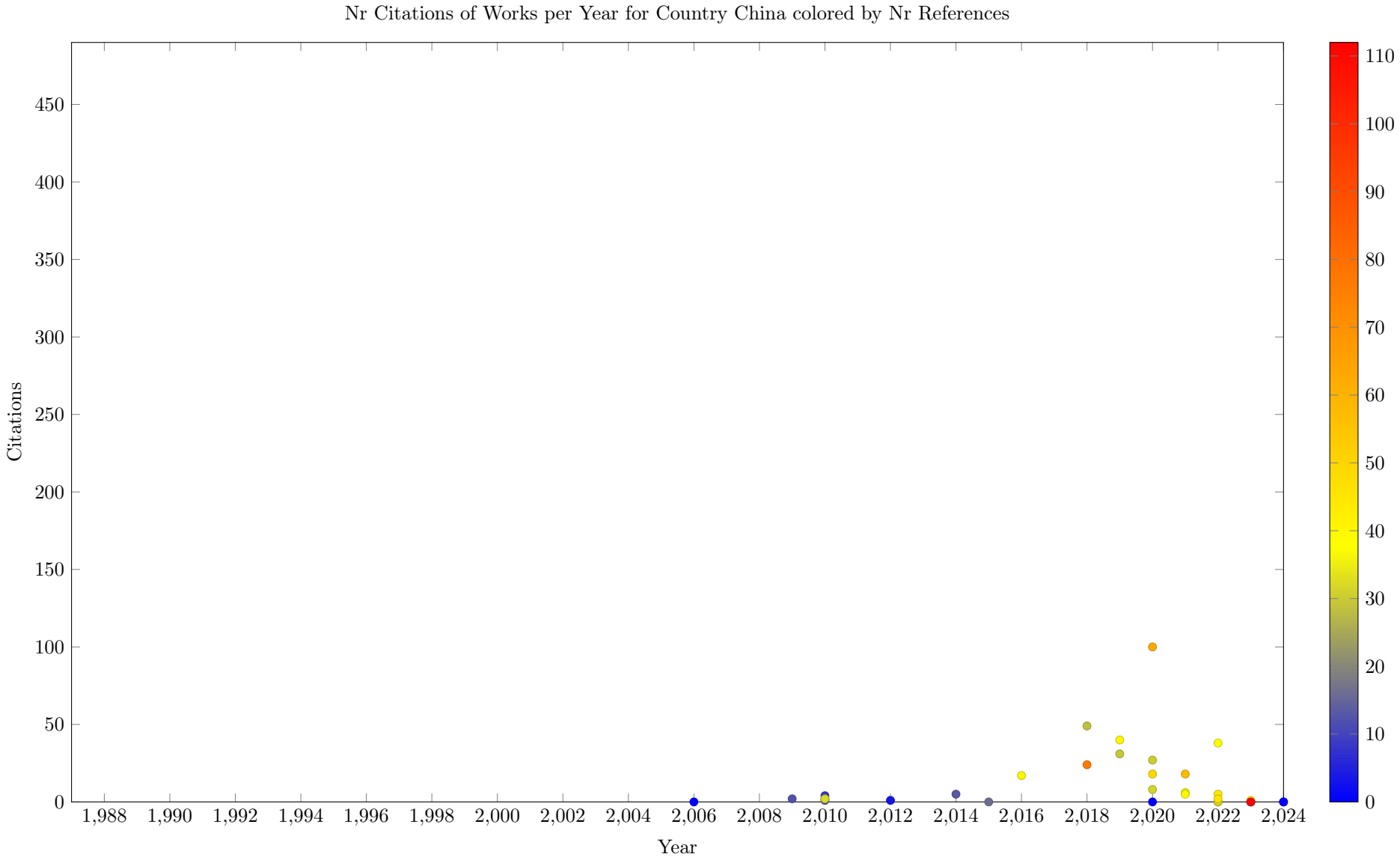
Nr Citations of Works per Year for Country China colored by Nr References
Citations
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Year
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1,990
1,992
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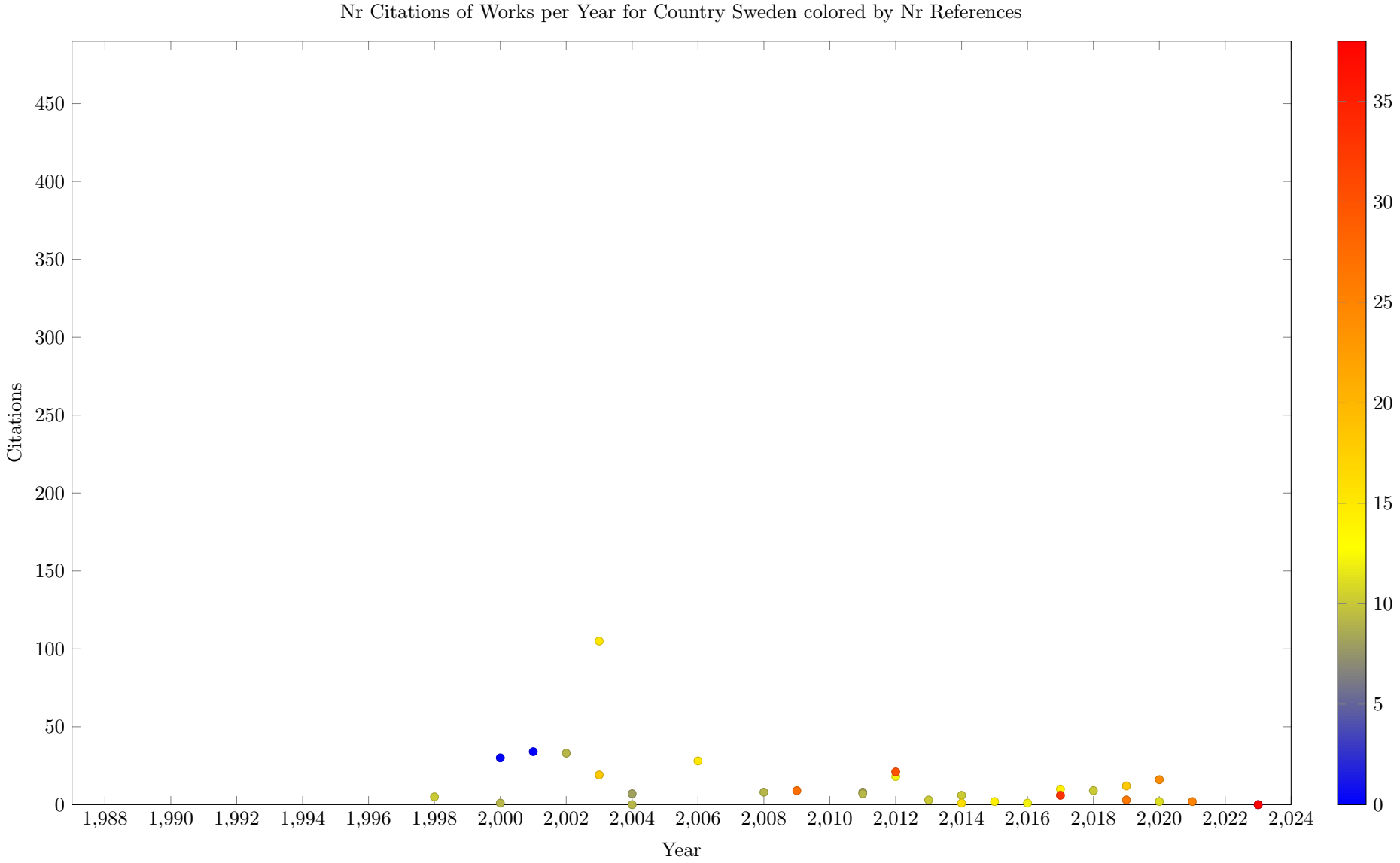
Nr Citations of Works per Year for Country Sweden colored by Nr References
Citations
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Year
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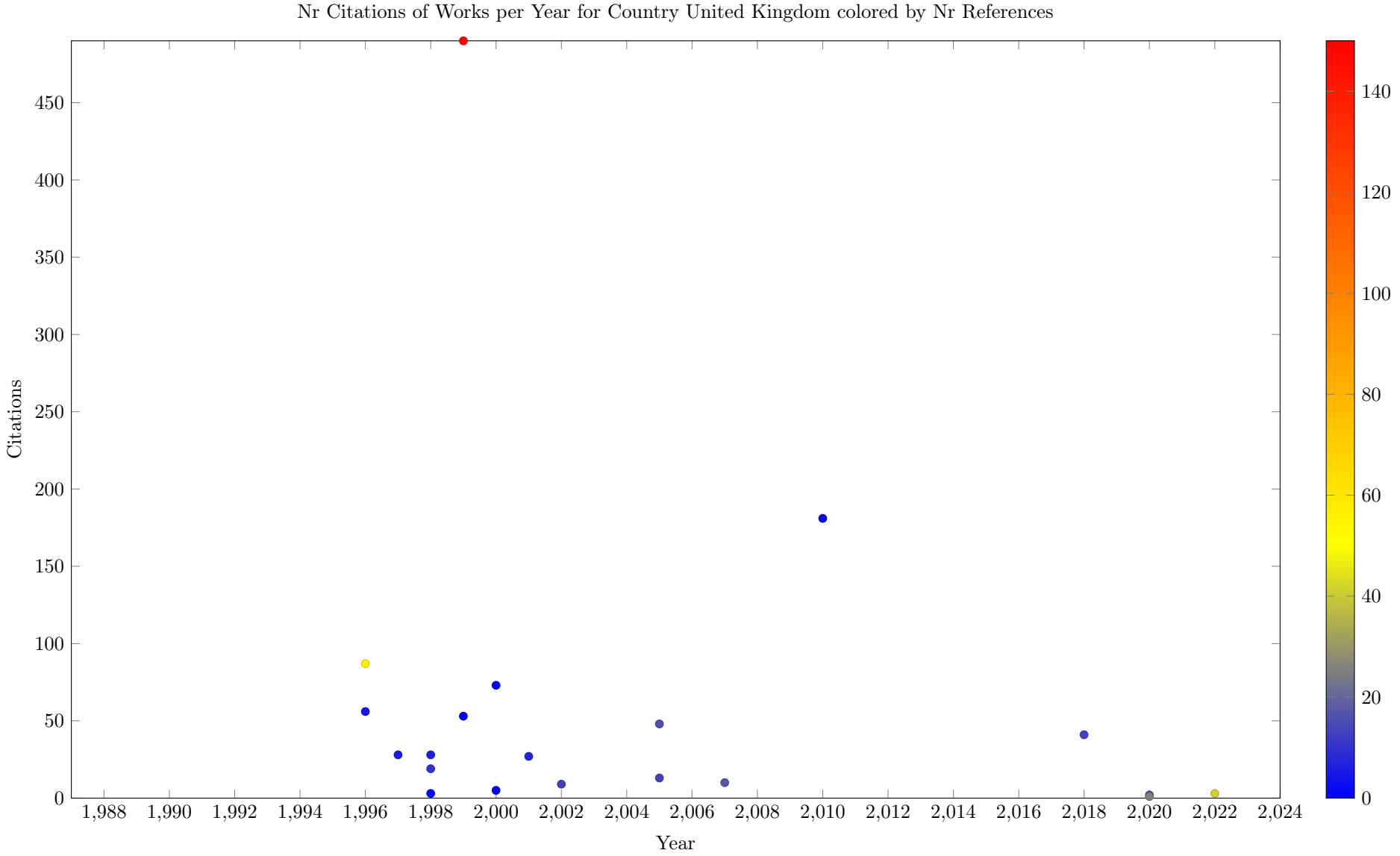
Nr Citations of Works per Year for Country United Kingdom colored by Nr References
Citations
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Year
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1,990
1,992
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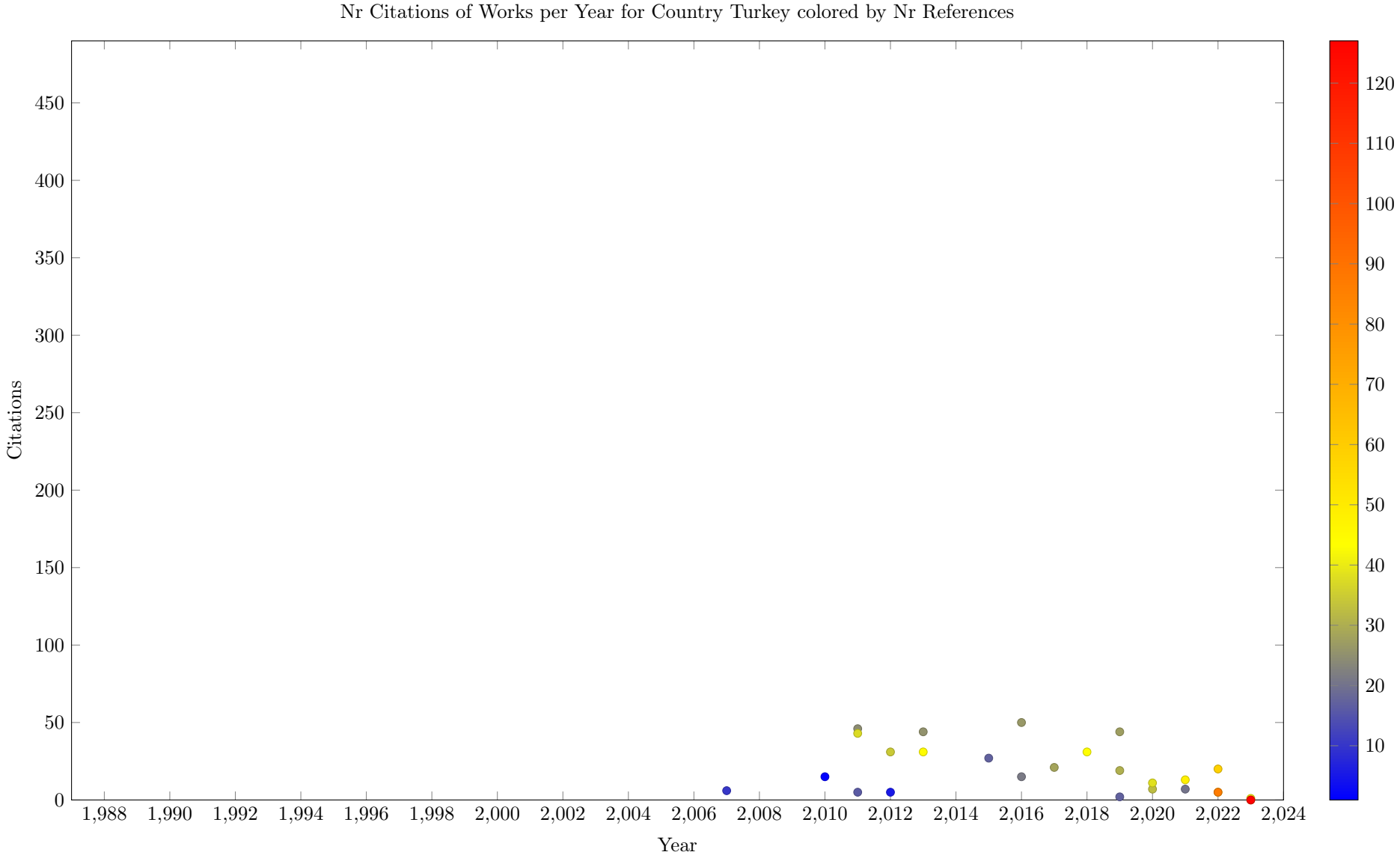
Nr Citations of Works per Year for Country Turkey colored by Nr References
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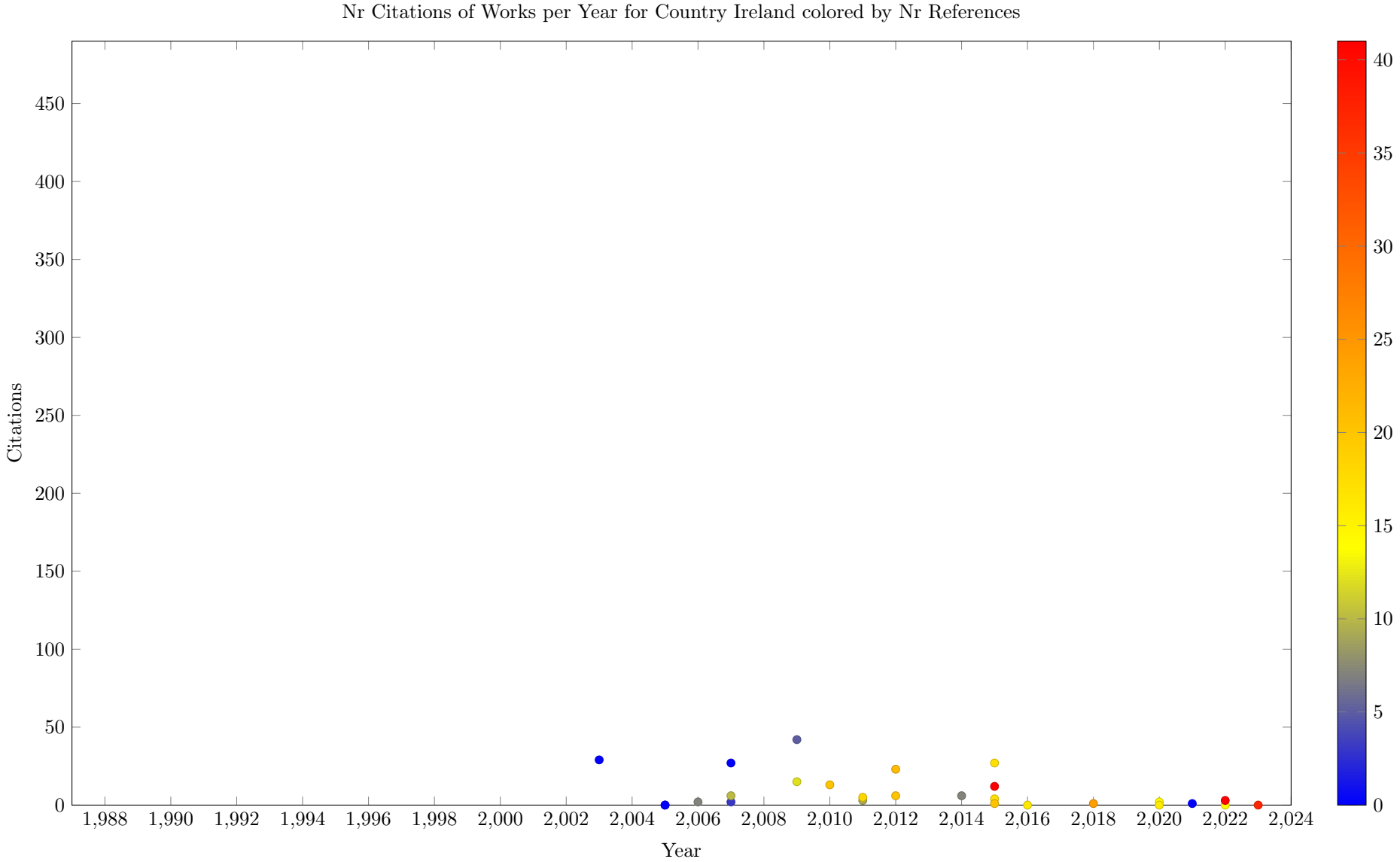
Nr Citations of Works per Year for Country Ireland colored by Nr References
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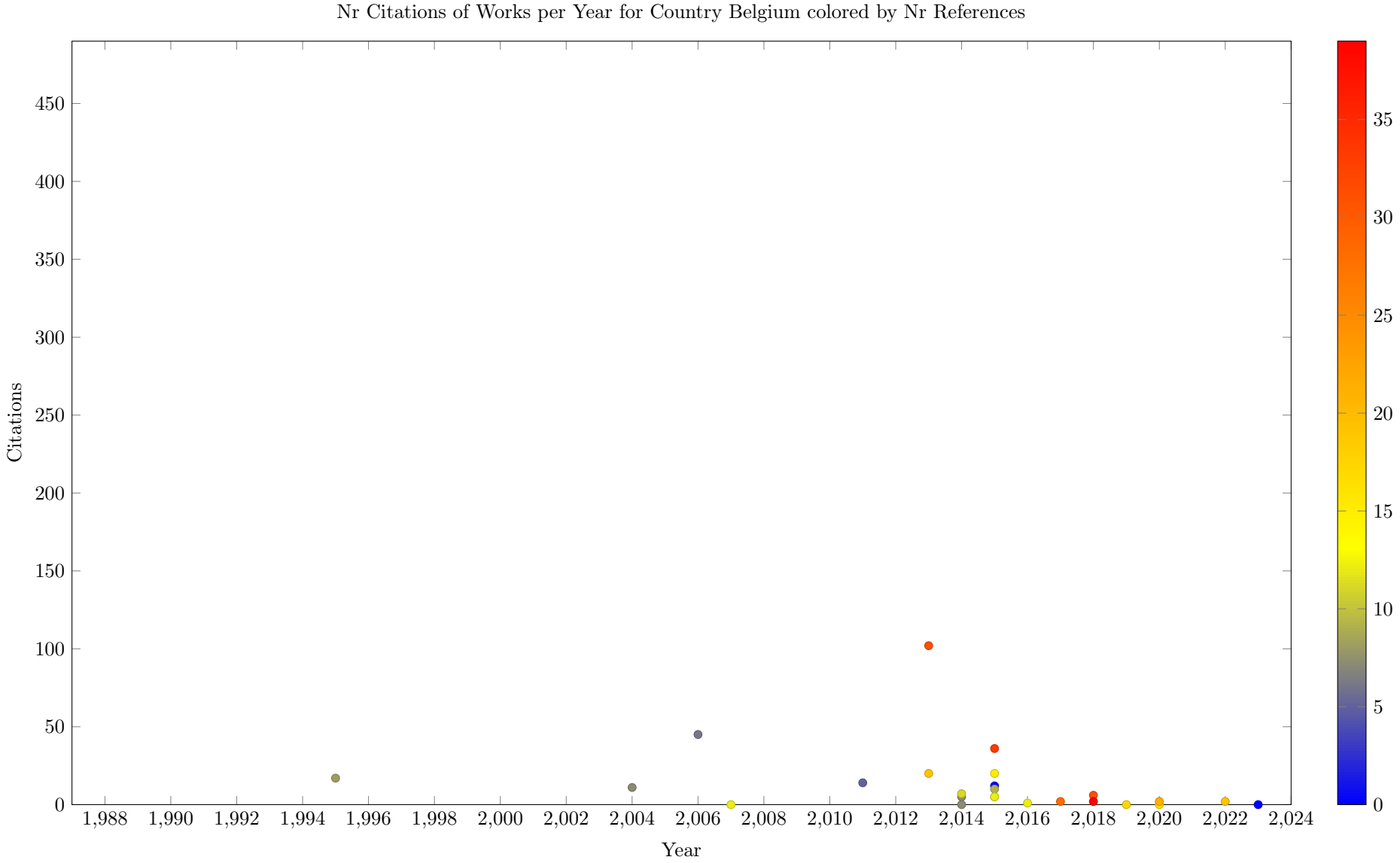
Nr Citations of Works per Year for Country Belgium colored by Nr References
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Year
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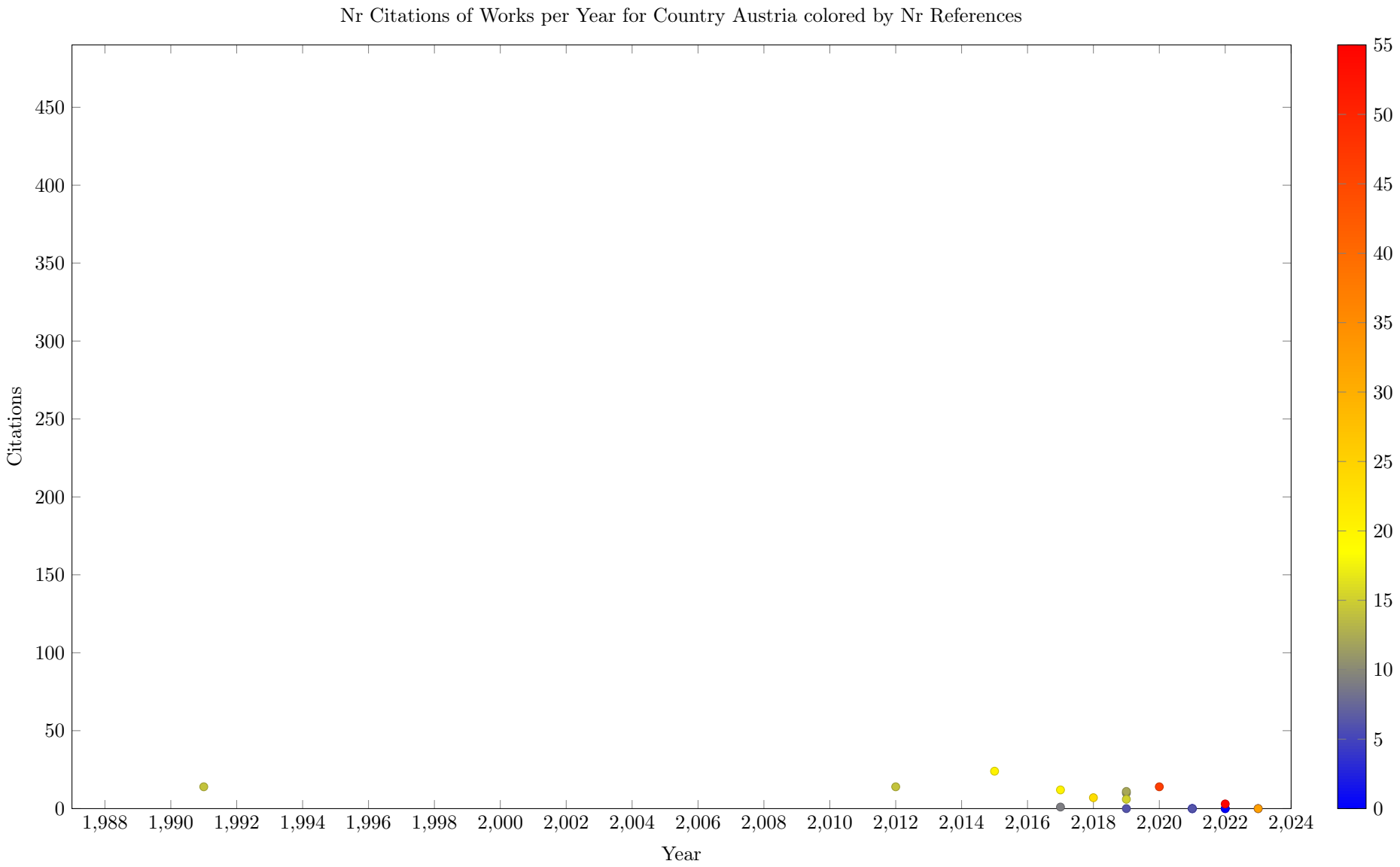
Nr Citations of Works per Year for Country Austria colored by Nr References
Citations
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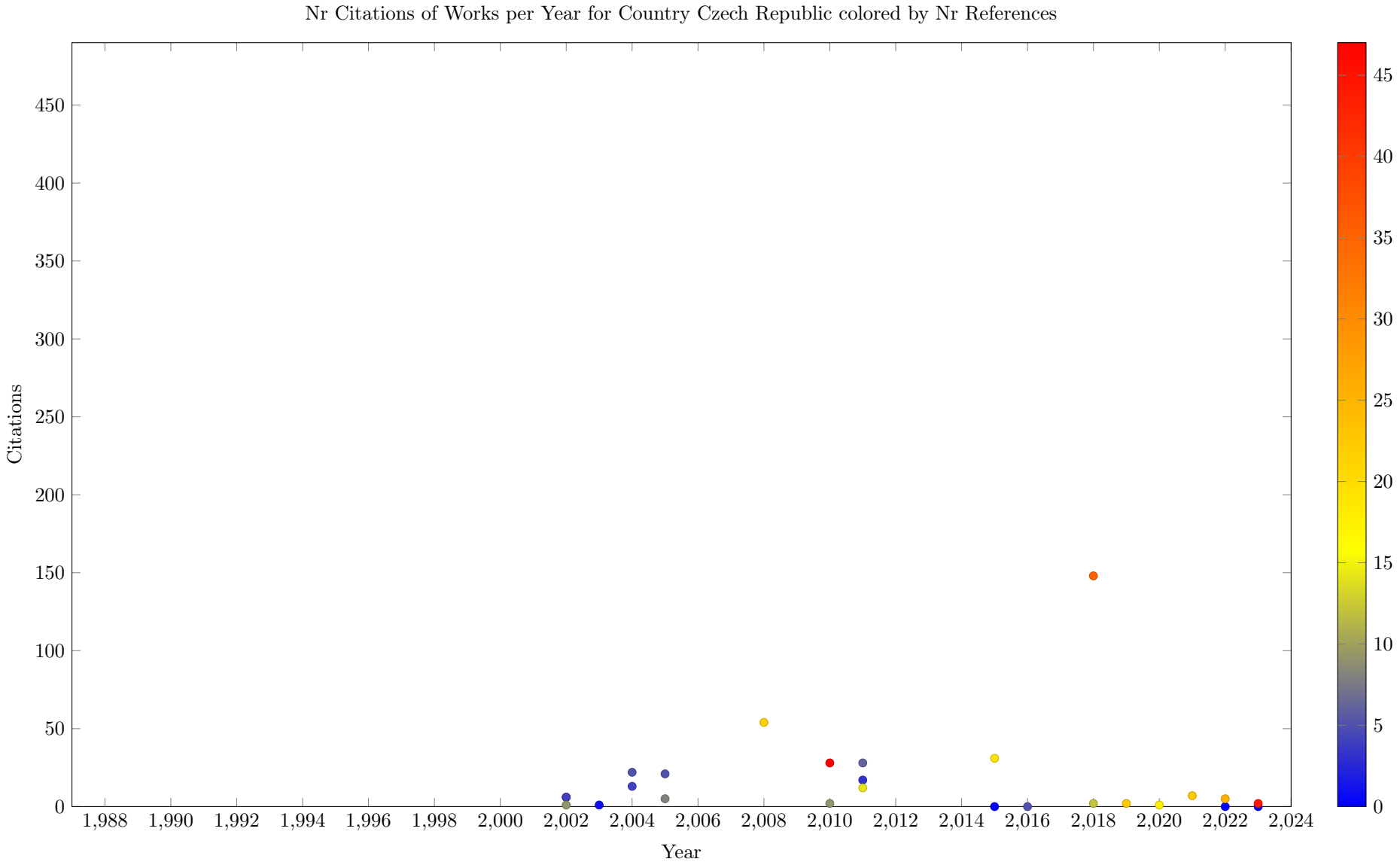
Nr Citations of Works per Year for Country Czech Republic colored by Nr References
Citations
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Year
1,988
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1,992
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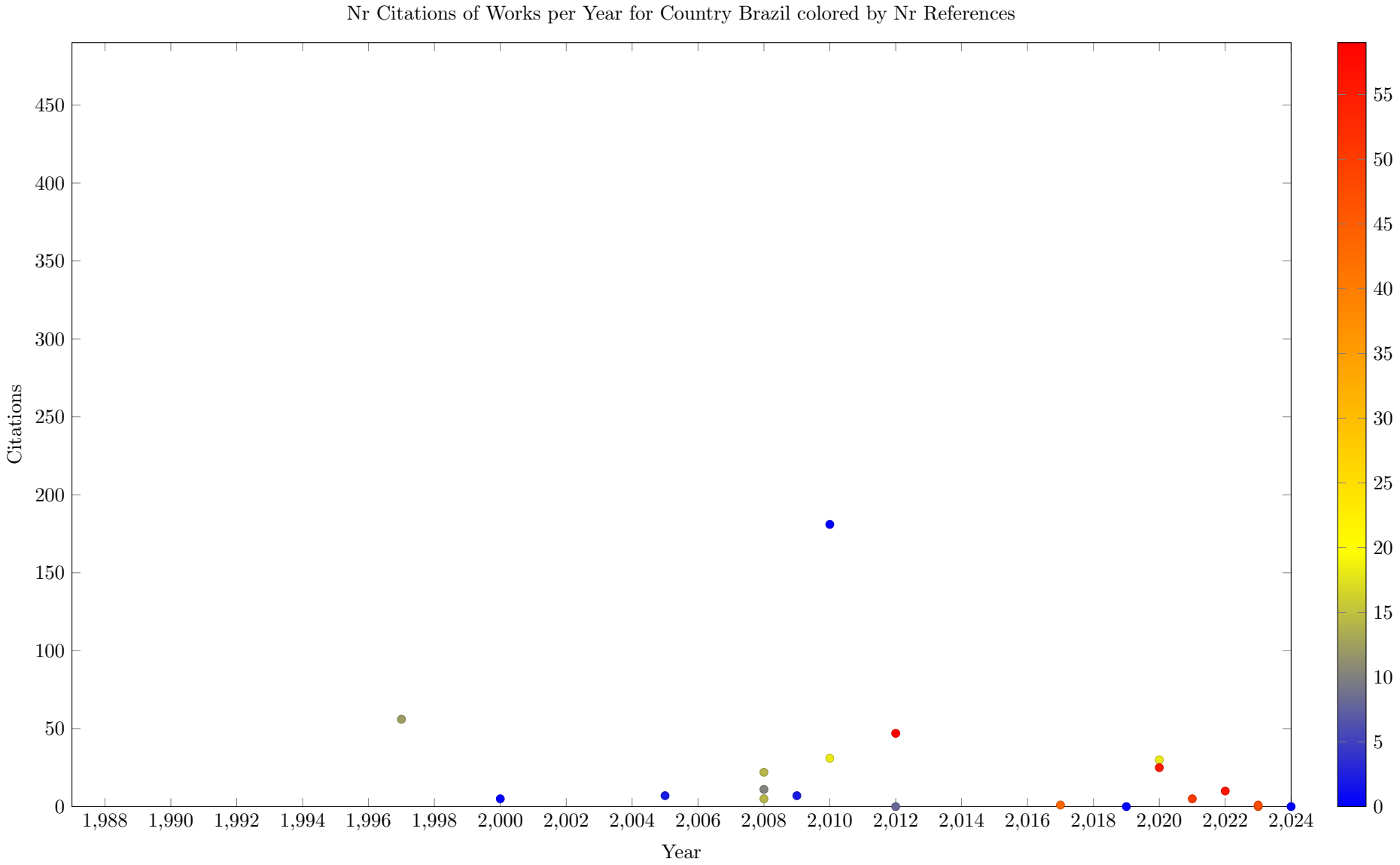
Nr Citations of Works per Year for Country Brazil colored by Nr References
Citations
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Year
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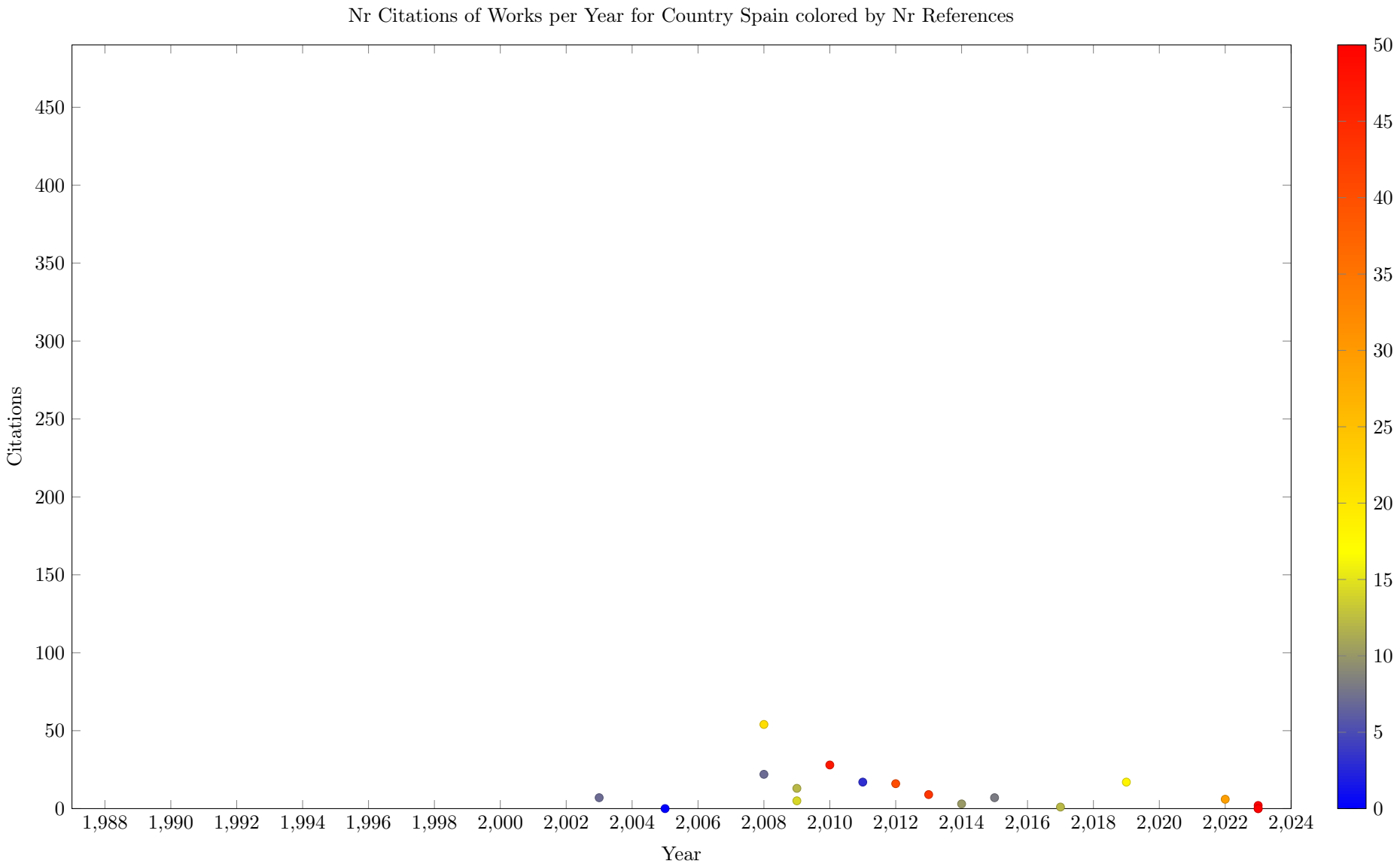
Nr Citations of Works per Year for Country Spain colored by Nr References
Citations
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Year
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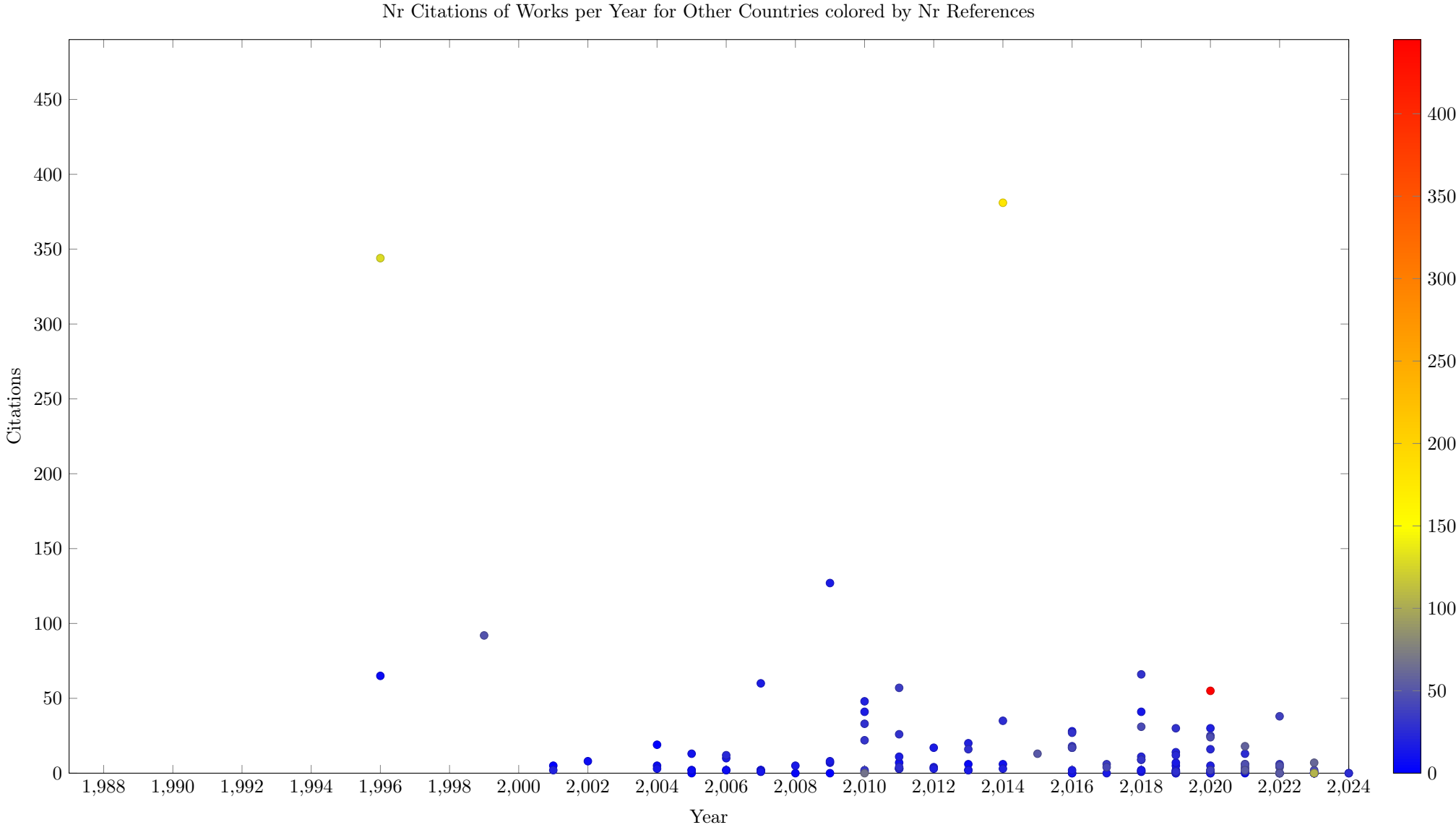
Nr Citations of Works per Year for Other Countries colored by Nr References
Citations
Year
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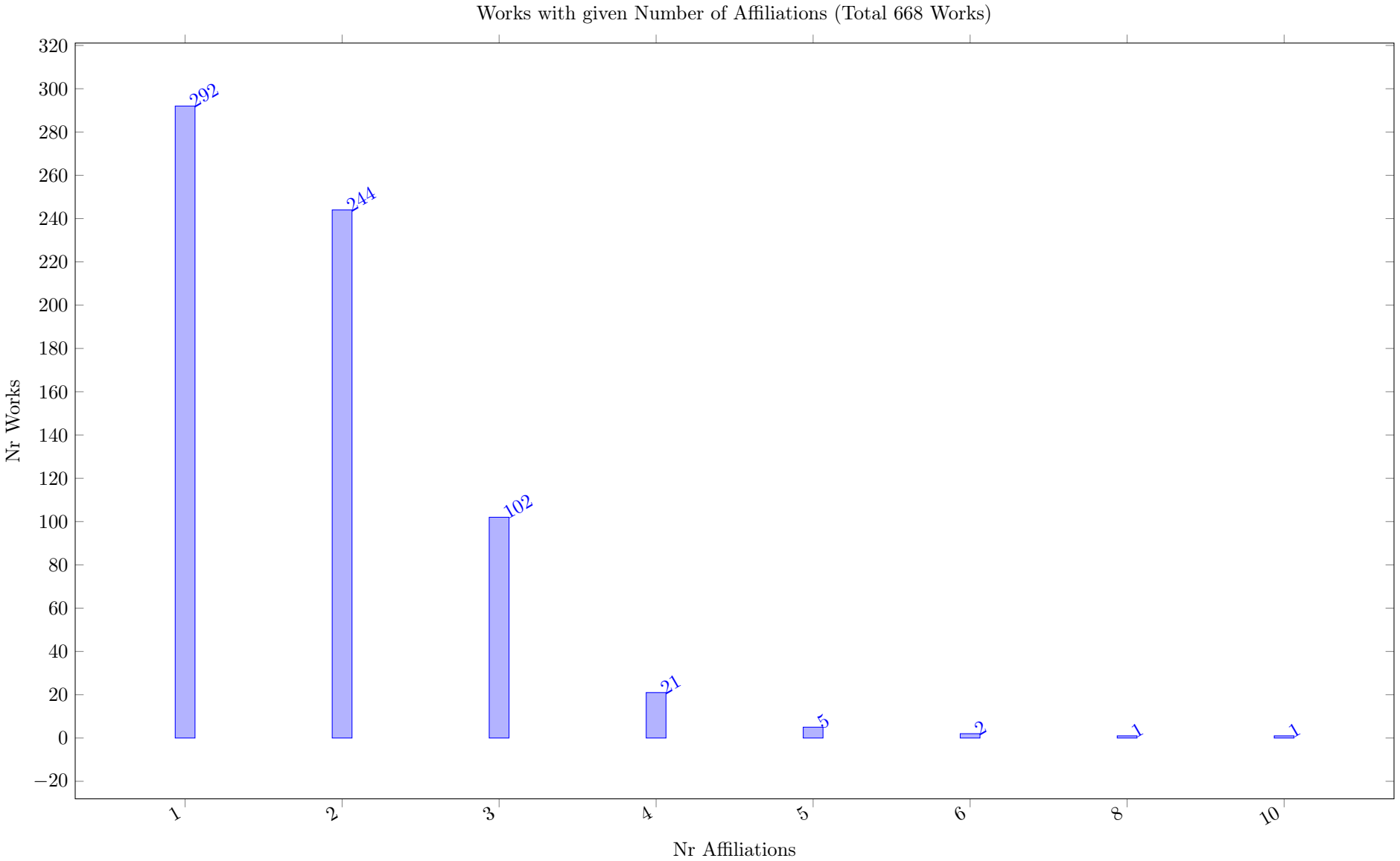
4 Collaborations

This section shows data about collaborations between multiple affiliations for the same work. This is based on Scopus data, which associates the affiliation with the work, not with each author of the work. The analysis excludes background work.



The following heatmap is not complete. It needs a symmetric option to count a collaboration for both A-B and B-A.

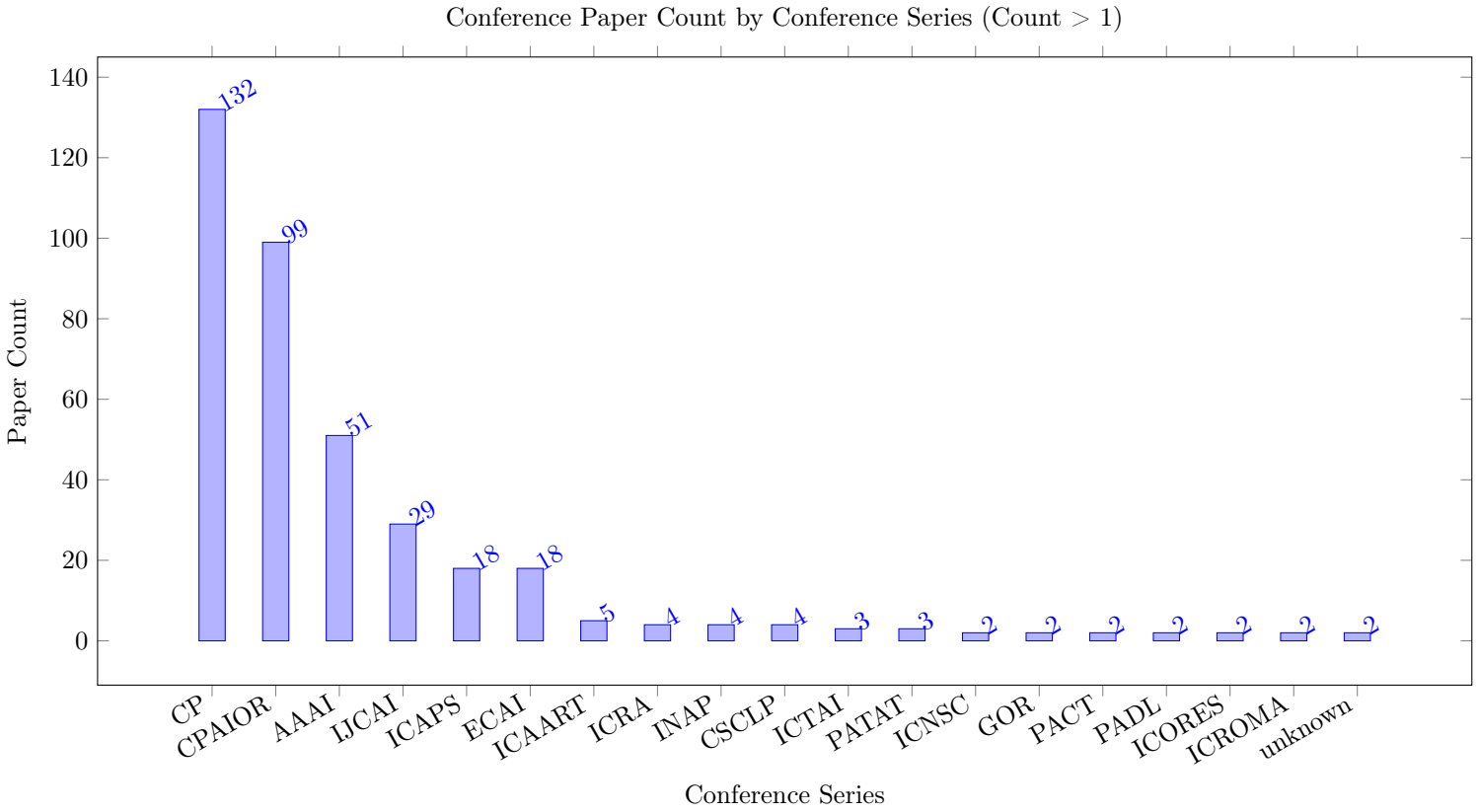
Table 7: Collaboration Data (Top 45 Inst by Decreasing Collab Fraction)

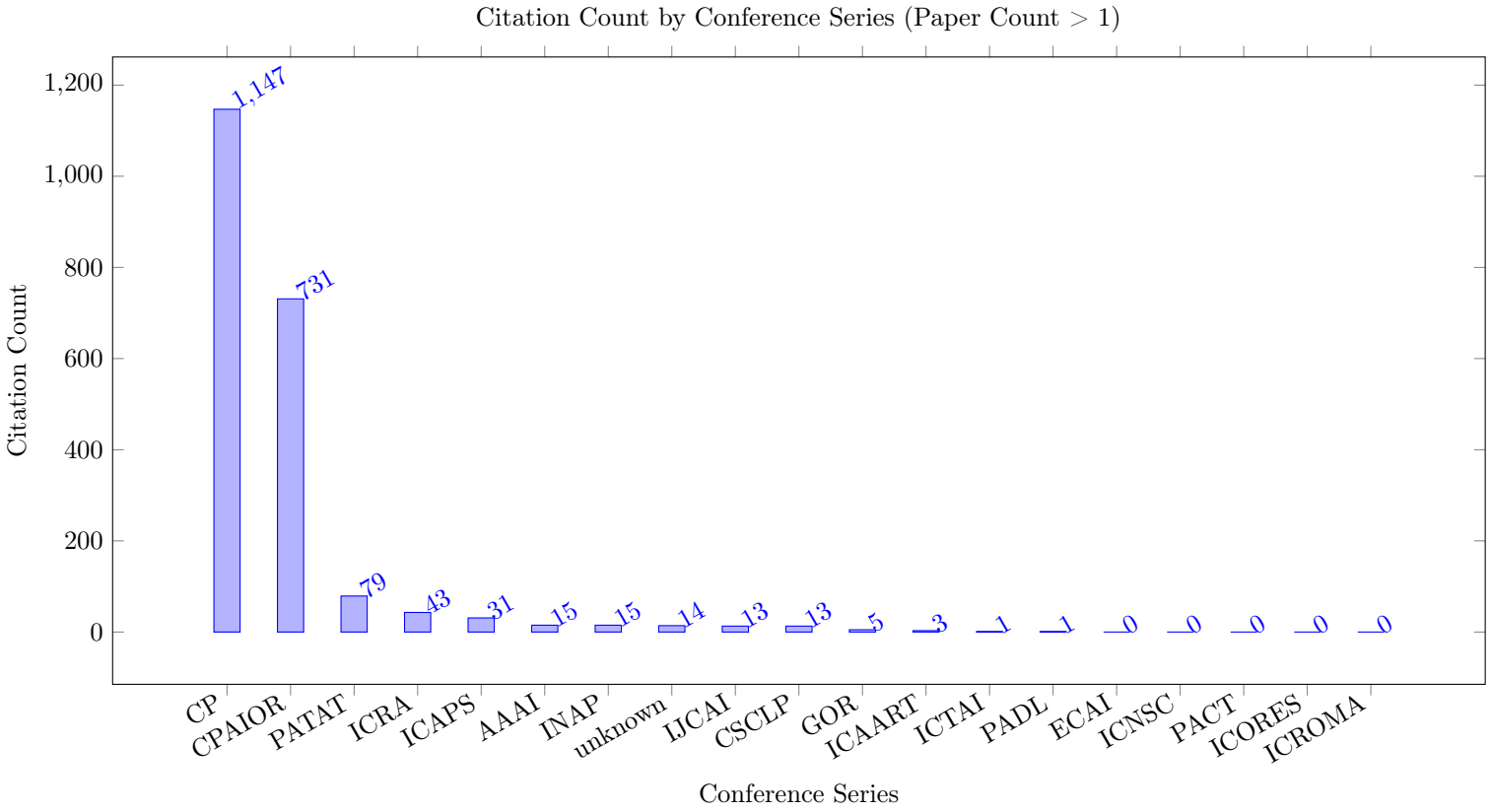
Inst	Nr Works	Collab Count	Domestic Collab	International Collab	Collab Fraction	Domestic Fraction	International Fraction	Collab Percentage	International Percentage
University of Toronto, Toronto, Canada	42	40	18	22	26.00	8.50	17.50	61.90	41.67
Université de Toulouse, Toulouse, France	28	37	19	18	21.00	14.83	6.17	75.00	22.02
University of Melbourne, Melbourne, Australia	25	32	23	9	20.00	15.00	5.00	80.00	20.00
Monash University, Clayton, Australia	21	28	19	9	19.00	13.50	5.50	90.48	26.19
Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia	18	30	24	6	18.00	15.00	3.00	100.00	16.67
University College Cork, Cork, Ireland	22	31	6	25	17.00	1.76	15.24	77.27	69.26
Alma Mater Studiorum Università di Bologna, Bologna, Italy	35	22	6	16	15.00	3.83	11.17	42.86	31.90
Laboratoire d'Analyse et d'Architecture des Systemes, Toulouse, France	14	19	14	5	13.00	10.00	3.00	92.86	21.43
IMT Atlantique, Nantes, France	17	15	5	10	13.00	4.00	9.00	76.47	52.94
International Business Machines, Armonk, United States	22	16	0	16	12.00	0.00	12.00	54.55	54.55
RISE, Swedish Institute of Computer Science, Kista, Sweden	12	14	3	11	10.00	2.00	8.00	83.33	66.67
The Royal Institute of Technology (KTH), Stockholm, Sweden	10	20	15	5	10.00	7.67	2.33	100.00	23.33
Université Catholique de Louvain, Louvain-la-Neuve, Belgium	19	12	2	10	9.00	1.33	7.67	47.37	40.35
Tepper School of Business, Pittsburgh, United States	22	18	6	12	9.00	2.33	6.67	40.91	30.30
Polytechnique Montréal, Montreal, Canada	14	10	6	4	8.00	5.50	2.50	57.14	17.86
Technische Universität Wien, Vienna, Austria	9	8	6	2	7.00	6.00	1.00	77.78	11.11
Dokuz Eylül Üniversitesi, Izmir, Turkey	9	8	6	2	7.00	5.00	2.00	77.78	22.22
Rotman School of Management, Toronto, Canada	7	16	13	3	7.00	5.50	1.50	100.00	21.43
Charles University, Prague, Czech Republic	17	10	4	6	7.00	3.50	3.50	41.18	20.59
Zuse Institute Berlin, Berlin, Germany	10	9	6	3	7.00	4.50	2.50	70.00	25.00
Universidade de São Paulo, Sao Paulo, Brazil	7	8	4	4	6.00	3.50	2.50	85.71	35.71
Université de Maroua, Maroua, Cameroon	6	10	6	4	6.00	3.67	2.33	100.00	38.89
Universidad Nacional del Litoral, Santa Fe, Argentina	12	14	4	10	6.00	4.00	2.00	50.00	16.67
Université d'Avignon et des Pays du Vaucluse, Avignon, France	7	7	5	2	6.00	4.00	2.00	85.71	28.57
Czech Institute of Informatics, Robotics and Cybernetics, Prague, Czech Republic	5	7	3	4	5.00	2.50	2.50	100.00	50.00
University of Tehran, Tehran, Iran	7	7	1	6	5.00	1.00	4.00	71.43	57.14
University of Windsor, Windsor, Canada	5	10	9	1	5.00	4.50	0.50	100.00	10.00
ABB Corporate Research, Vasteras, Vasteras, Sweden	5	11	9	2	5.00	4.00	1.00	100.00	20.00
Compagnie IBM France, Bois-Colombes, France	8	7	3	4	5.00	2.00	3.00	62.50	37.50
Technische Universität Berlin, Berlin, Germany	6	13	5	8	5.00	3.50	1.50	83.33	25.00
Magyar Tudomanyos Akademia, Budapest, Hungary	8	6	0	6	5.00	0.00	5.00	62.50	62.50
Bouygues, Paris, France	7	5	3	2	5.00	3.00	2.00	71.43	28.57
Université Grenoble Alpes, Saint Martin d'Heres, France	5	8	7	1	5.00	4.67	0.33	100.00	6.67
University of Connecticut, Storrs, United States	5	8	5	3	5.00	3.83	1.17	100.00	23.33
Brown University, Providence, United States	6	10	4	6	4.00	2.53	1.47	66.67	24.44
Universidade Federal do Ceará, Fortaleza, Brazil	4	5	4	1	4.00	3.50	0.50	100.00	12.50
Université Laval, Quebec, Canada	9	9	2	7	4.00	1.00	3.00	44.44	33.33
Universidad Andrés Bello, Santiago, Chile	4	11	6	5	4.00	2.40	1.60	100.00	40.00
Alpen-Adria-Universität Klagenfurt, Klagenfurt, Austria	6	5	5	0	4.00	4.00	0.00	66.67	0.00
Universitat Politècnica de València, Valencia, Spain	7	7	0	7	4.00	0.00	4.00	57.14	57.14
CNRS Centre National de la Recherche Scientifique, Paris, France	6	5	2	3	4.00	2.00	2.00	66.67	33.33
Uppsala Universitet, Uppsala, Sweden	4	9	4	5	4.00	1.00	3.00	100.00	75.00
Aarhus Universitet, Aarhus, Denmark	4	4	0	4	4.00	0.00	4.00	100.00	100.00
Huazhong University of Science and Technology, Wuhan, China	4	10	8	2	4.00	3.17	0.83	100.00	20.83
Sorbonne Université, Paris, France	5	6	5	1	4.00	3.00	1.00	80.00	20.00

Table 8: Heat Map based on Collaboration between Institutions (Integer Count)

From/To	Total	France	United States	Canada	Australia	Sweden	Germany	China	Ireland	Italy	Belgium	Netherlands	Chile	Turkey	Austria	Argentina	Brazil	Spain	United Kingdom	Norway	Czech Republic	Cameroon	Colombia	Iran	Tunisia	Russian Federation	Luxembourg	South Korea	Switzerland	Singapore	Hong Kong	Denmark	Japan	Serbia	Macao	Algeria	Egypt	Finland	Mexico	Portugal	Hungary	Poland	Taiwan	Greece	Iraq	Saudi Arabia	Pakistan	Iceland	Romania	Other
Total		111	93	79	61	54	54	53	37	28	23	20	17	17	14	14	13	11	11	10	9	9	9	8	7	7	6	6	4	4	4	4	3	3	3	3	3	2	2	2	2	2	1	1	1	1	1	1	
United States	133	6	42	11	3	7	4	5	14	4	9	8	3	2	0	3	2	0	0	0	0	0	0	2	0	0	2	1	0	0	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0
France	121	72	7	5	2	8	2	1	4	0	2	0	0	0	0	0	1	0	2	1	3	0	0	1	3	1	1	0	0	0	0	1	0	0	0	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Canada	64	1	1	51	0	0	4	0	1	0	2	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Australia	61	1	0	1	42	0	3	2	1	4	0	1	0	0	1	0	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Germany	60	2	9	1	5	1	25	0	2	1	0	3	0	0	0	2	2	0	1	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
China	43	0	3	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Italy	32	2	2	0	3	2	2	2	1	10	2	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	31	8	4	3	0	0	2	0	10	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sweden	29	0	0	0	0	24	0	0	0	2	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	21	0	4	0	0	0	0	1	2	0	0	0	0	12	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belgium	20	6	1	0	0	3	0	0	0	0	6	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	18	0	0	1	0	0	2	0	0	2	0	0	5	0	0	0	2	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chile	17	0	0	0	0	0	0	0	0	1	0	0	8	0	0	0	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	15	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	0	0	6	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Austria	14	0	0	0	1	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Norway	13	5	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cameroon	13	0	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Netherlands	12	0	4	0	2	0	1	0	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Brazil	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Russian Federation	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Portugal	8	0	3	0	0	0	1	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Kingdom	7	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hungary	7	1	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Denmark	7	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switzerland	6	0	0	0	0	4	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Singapore	6	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Argentina	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Taiwan	5	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Pakistan	5	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
Iran	4	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
South Korea	4	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tunisia	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Japan	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poland	3	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Egypt	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
Finland	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Romania	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United Arab Emirates	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malaysia	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
India	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benin	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greece	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Mexico	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Saudi Arabia	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hong Kong	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other		0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	

5 Conference Papers by Most Common Conference Series

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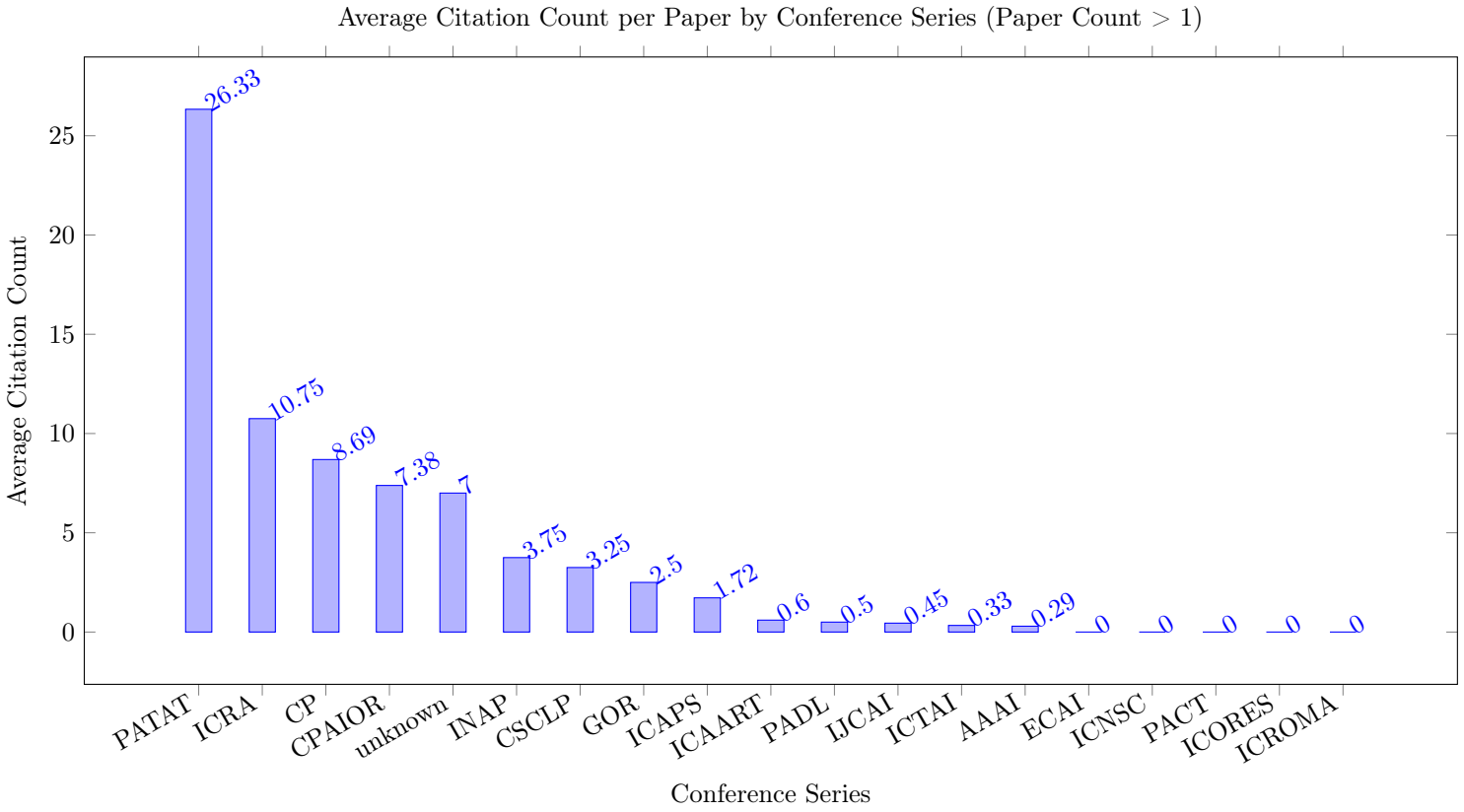
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0
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INAP
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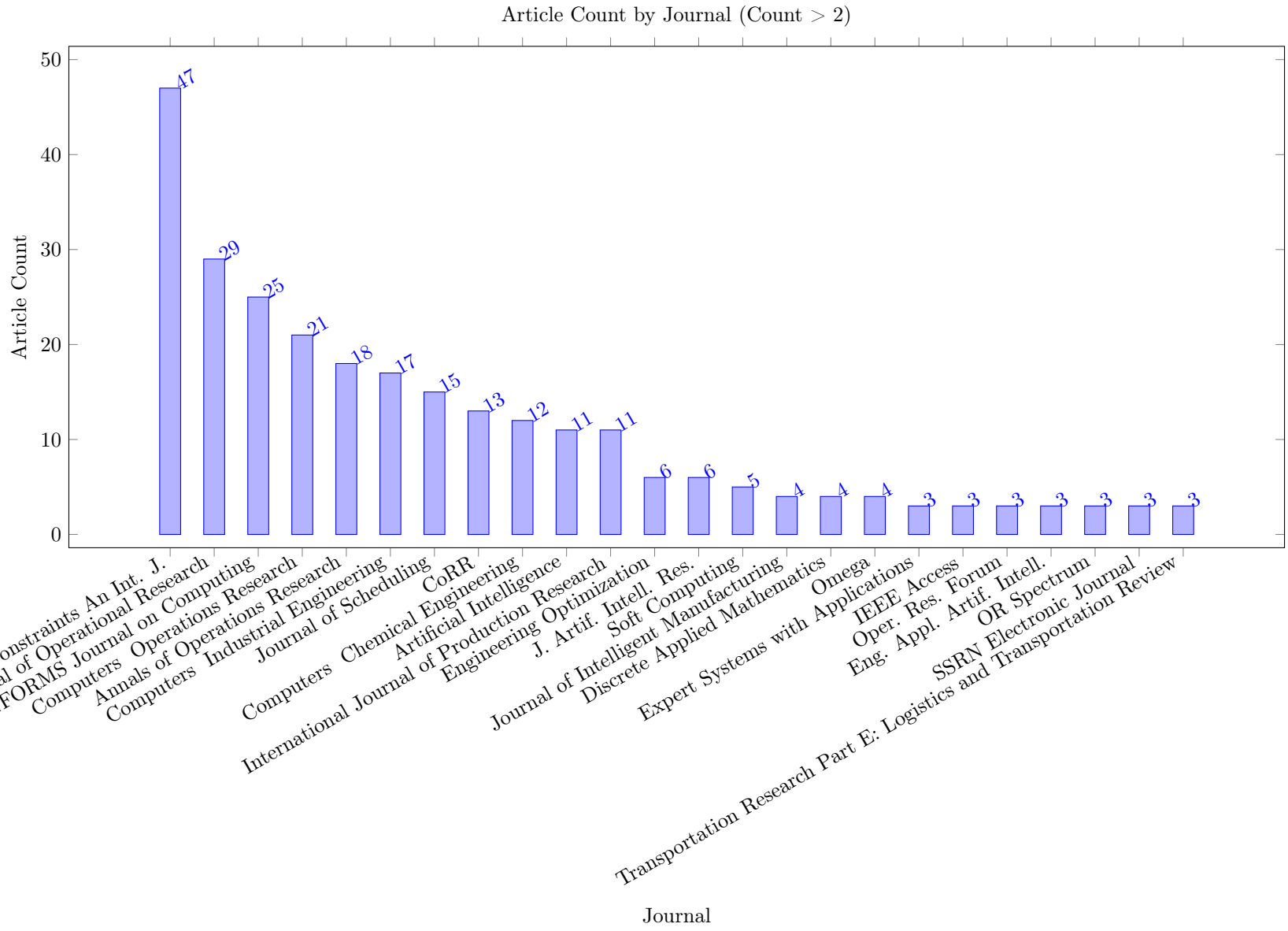
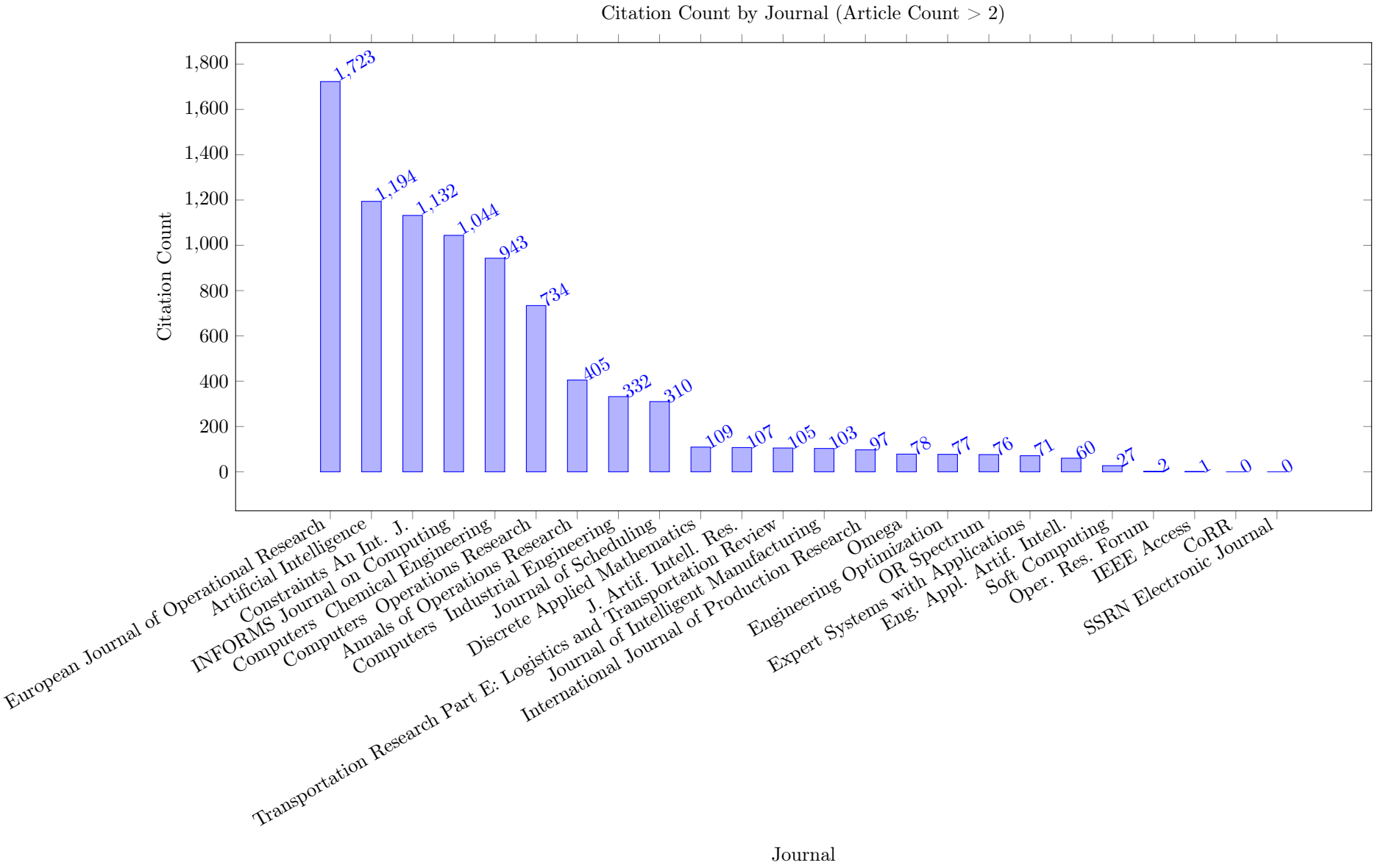
Conference Series

6 Journal Articles by Most Common Journals

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109
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103
97
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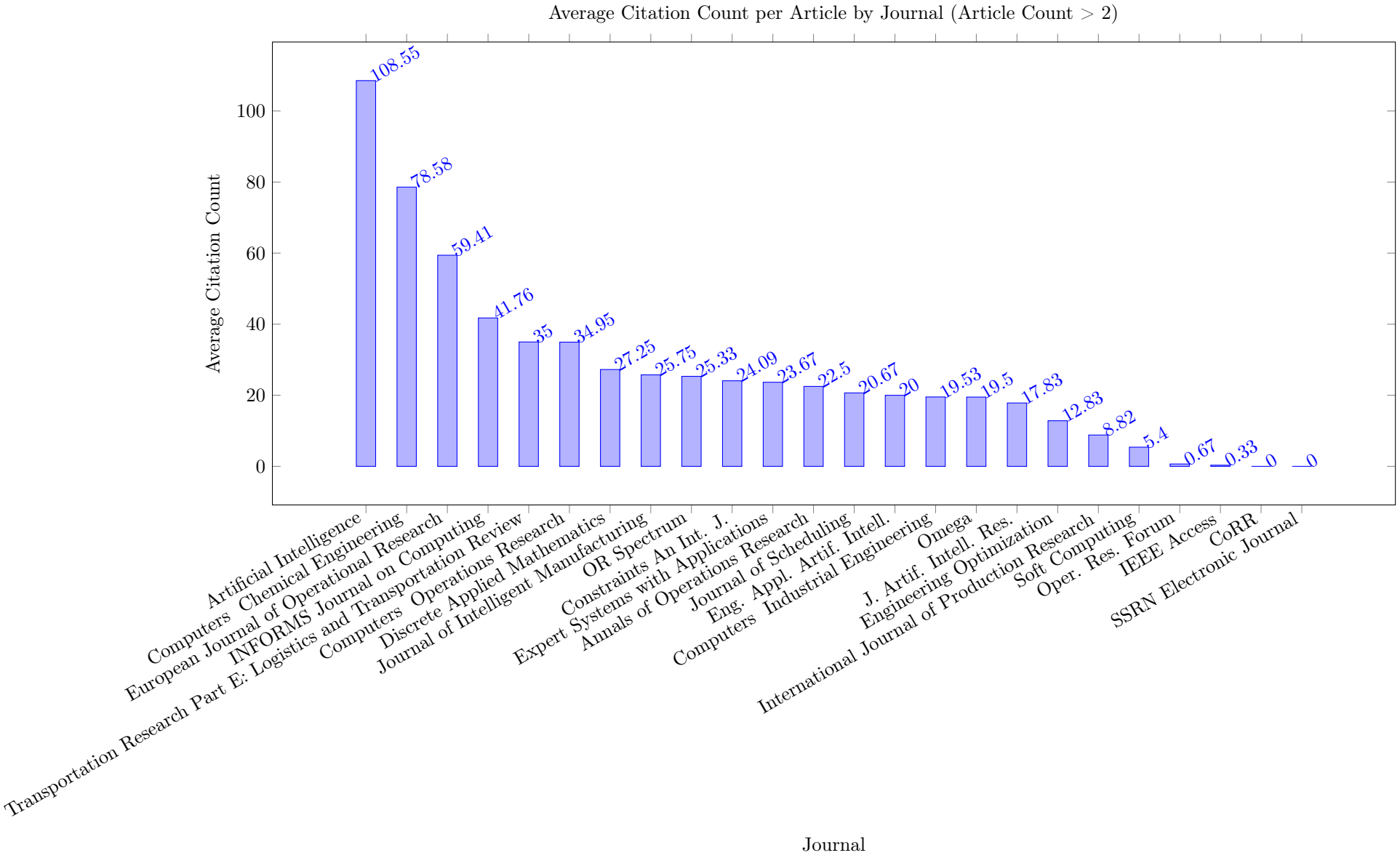
European Journal of Operational Research
Artificial Intelligence
Constraints An Int. J.
INFORMS Journal on Computing
Computers Chemical Engineering
Computers Operations Research
Annals of Operations Research
Computers Industrial Engineering
Journal of Scheduling
Discrete Applied Mathematics
J. Artif. Intell. Res.
Transportation Research Part E: Logistics and Transportation Review
Journal of Intelligent Manufacturing
International Journal of Production Research
Omega
Engineering Optimization
OR Spectrum
Expert Systems with Applications
Eng. Appl. Artif. Intell.
Soft Computing
Oper. Res. Forum
IEEE Access
CoRR
SSRN Electronic Journal
Journal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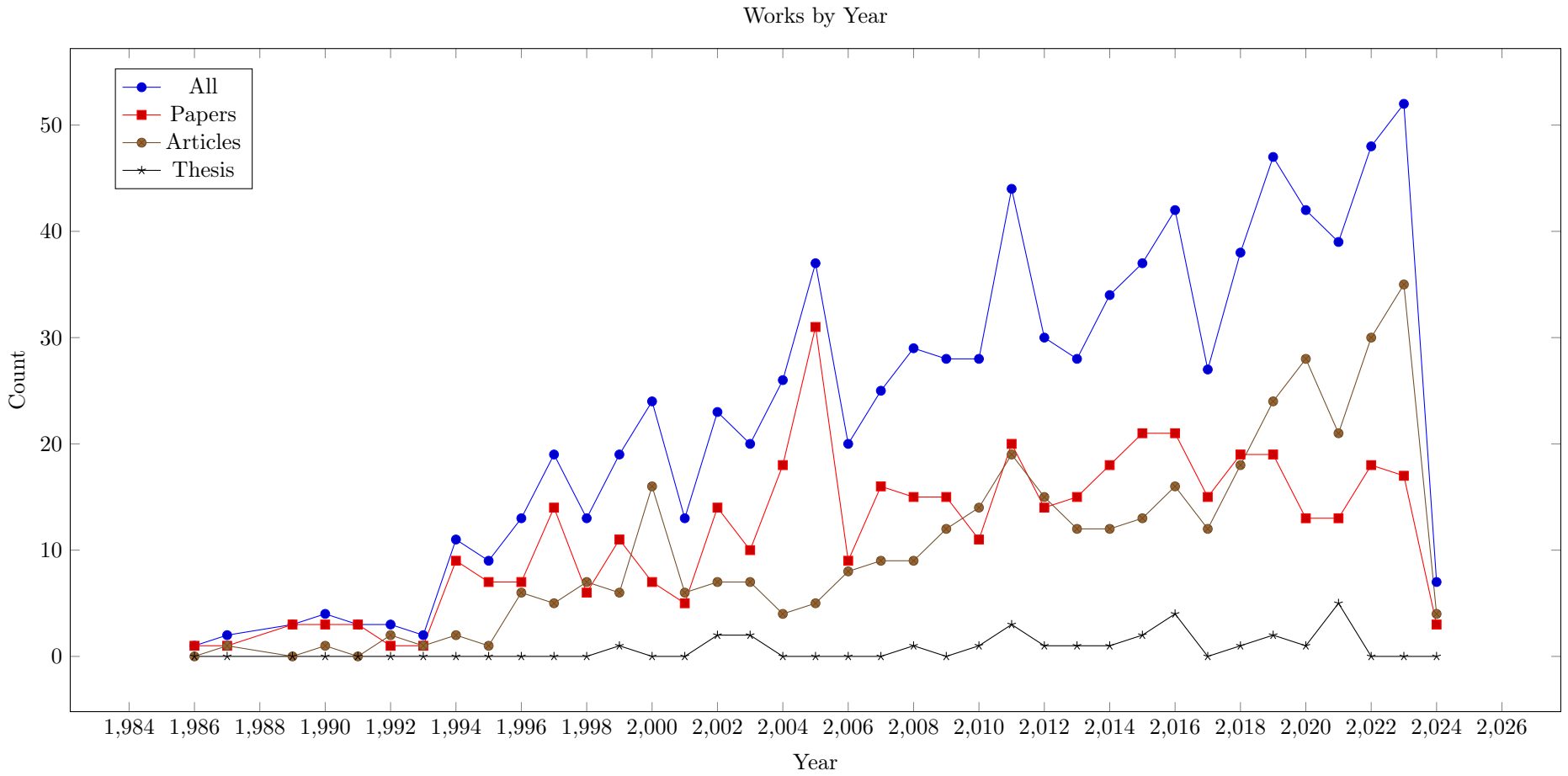
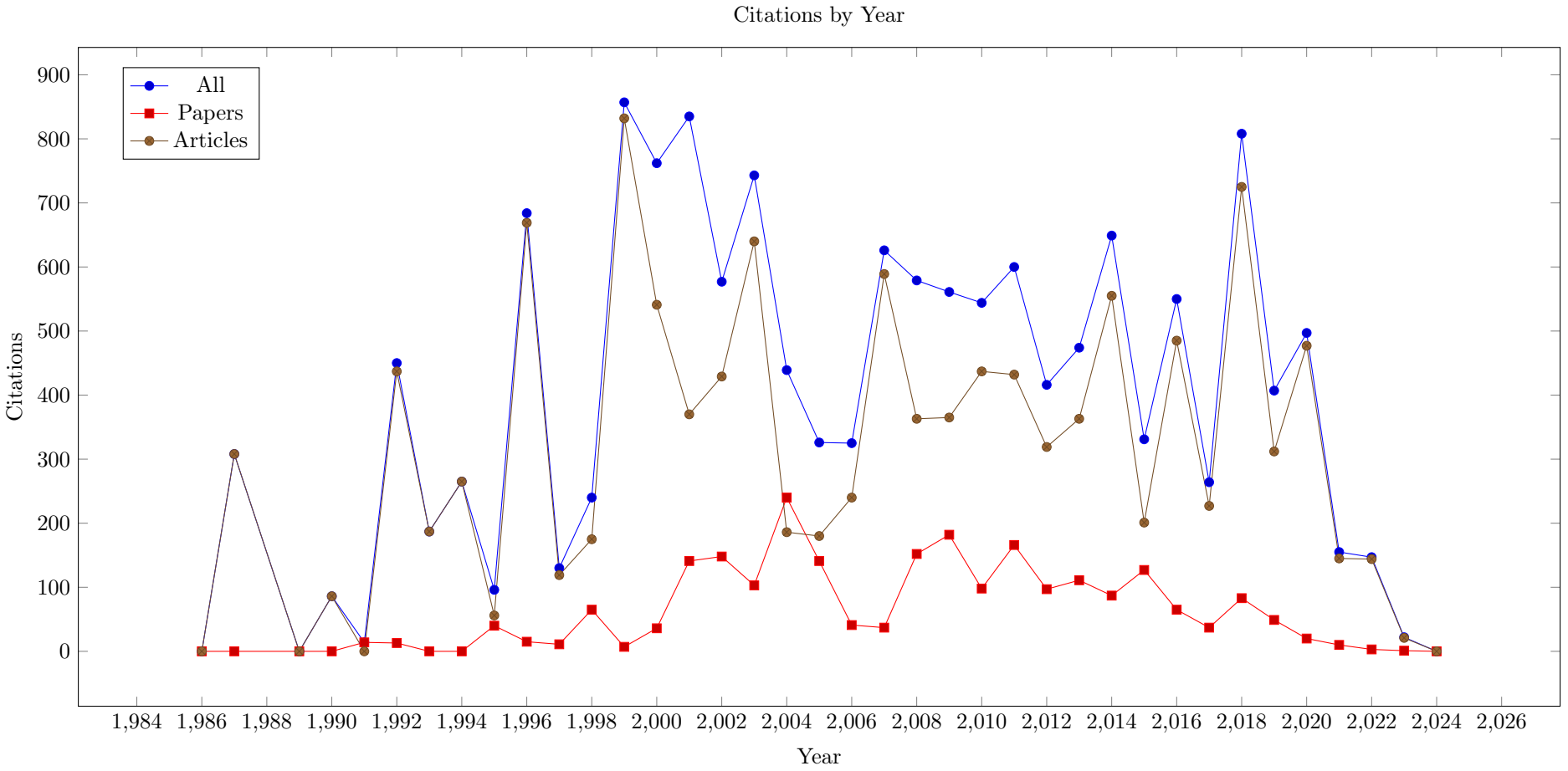
Artificial Intelligence
Computers Chemical Engineering
European Journal of Operational Research
INFORMS Journal on Computing
Transportation Research Part E: Logistics and Transportation Review
Computers Operations Research
Discrete Applied Mathematics
Journal of Intelligent Manufacturing
OR Spectrum
Constraints An Int. J.
Expert Systems with Applications
Annals of Operations Research
Journal of Scheduling
Eng. Appl. Artif. Intell.
Computers Industrial Engineering
Omega
J. Artif. Intell. Res.
Engineering Optimization
International Journal of Production Research
Soft Computing
Oper. Res. Forum
IEEE Access
CoRR
SSRN Electronic Journal
Journal

7 Works by Year

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Articles
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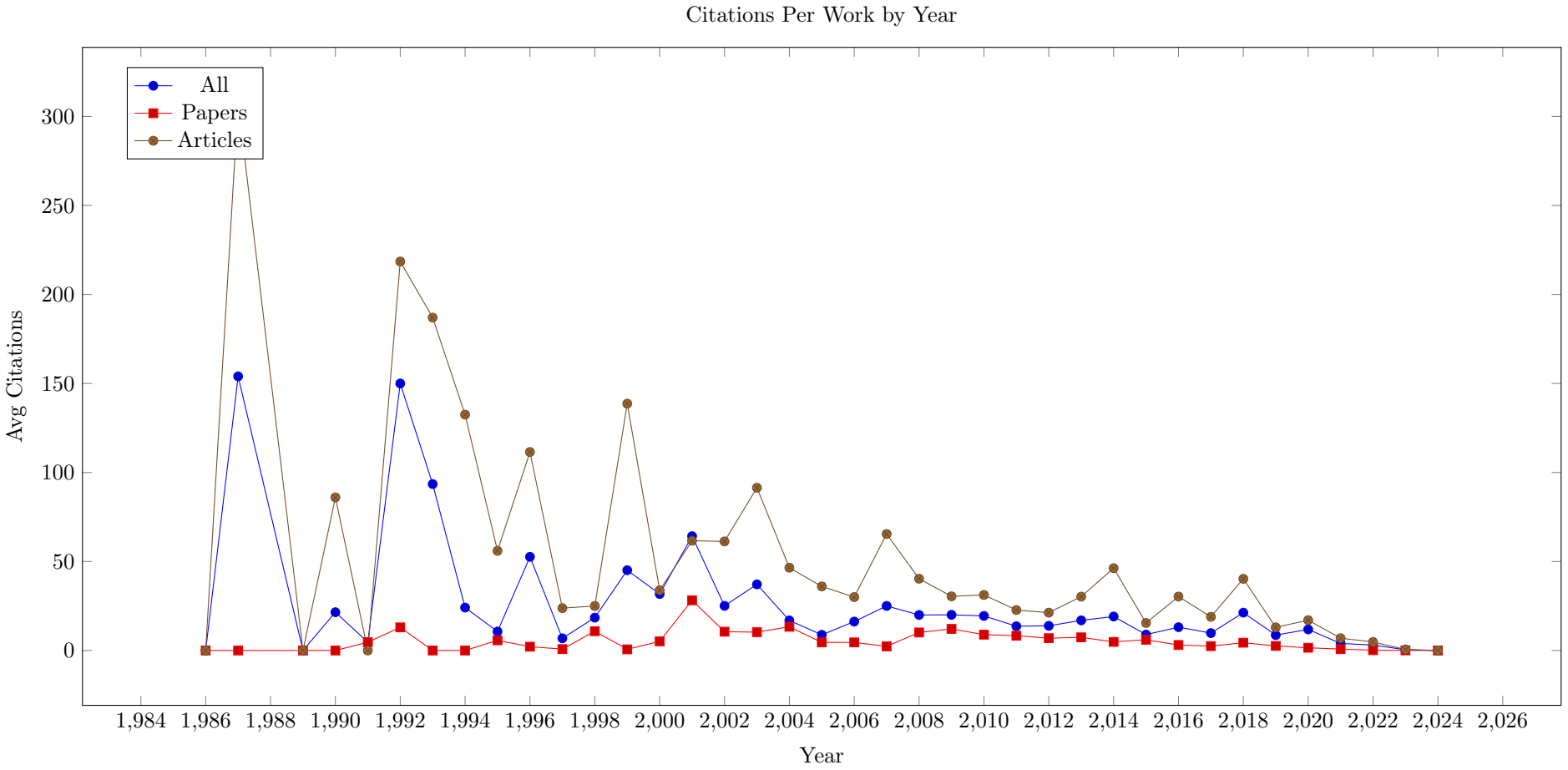
Year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Articles
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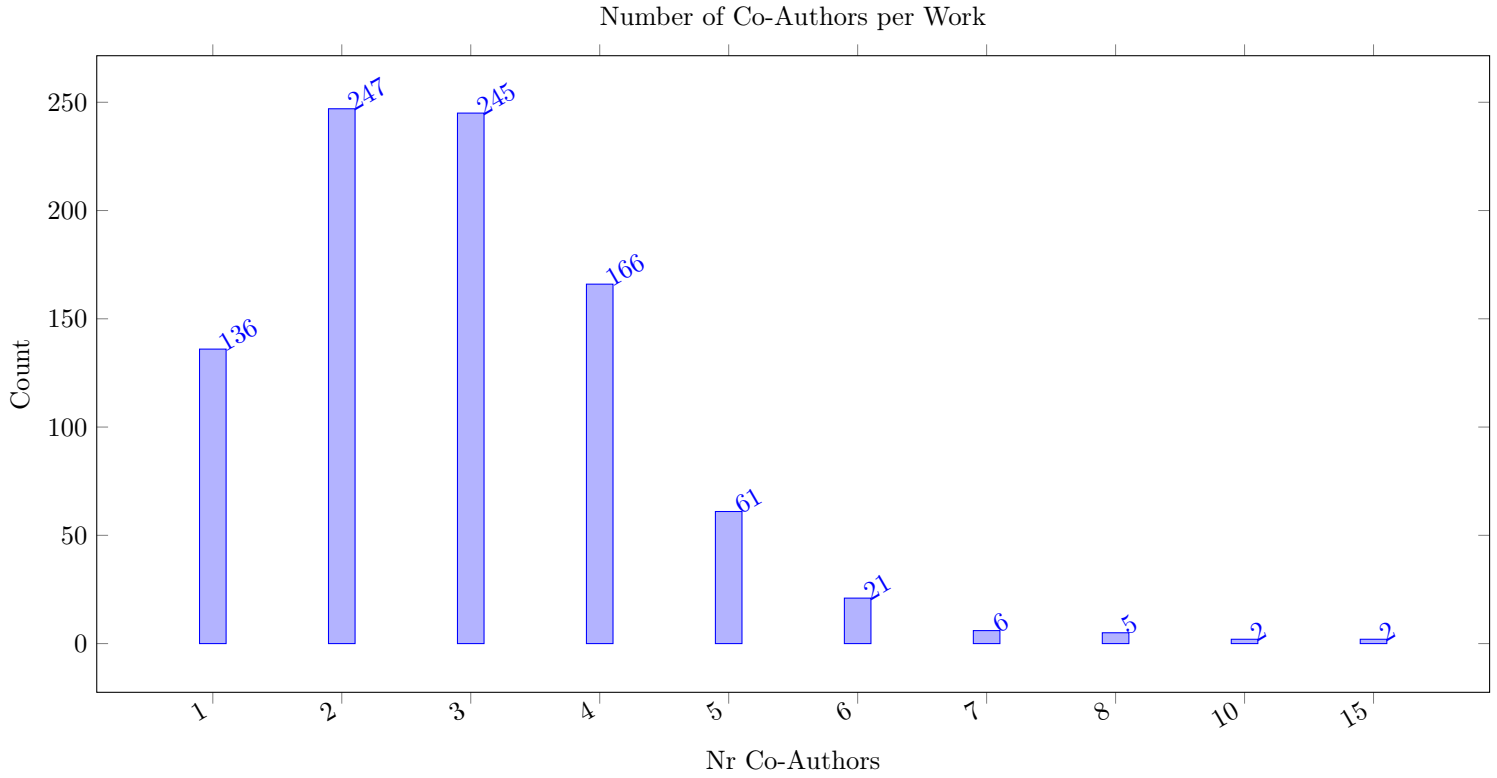
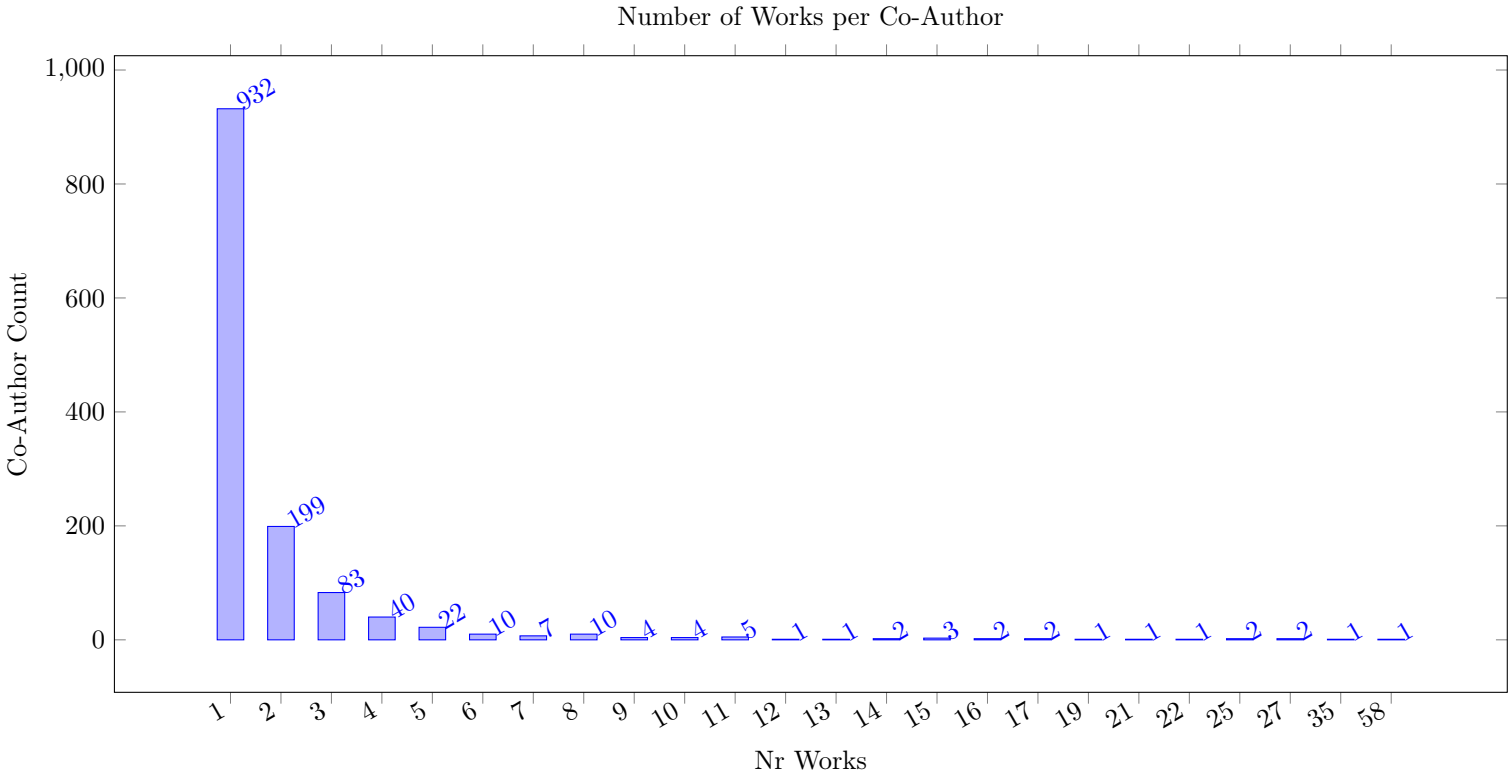
2,024
2,026
Year

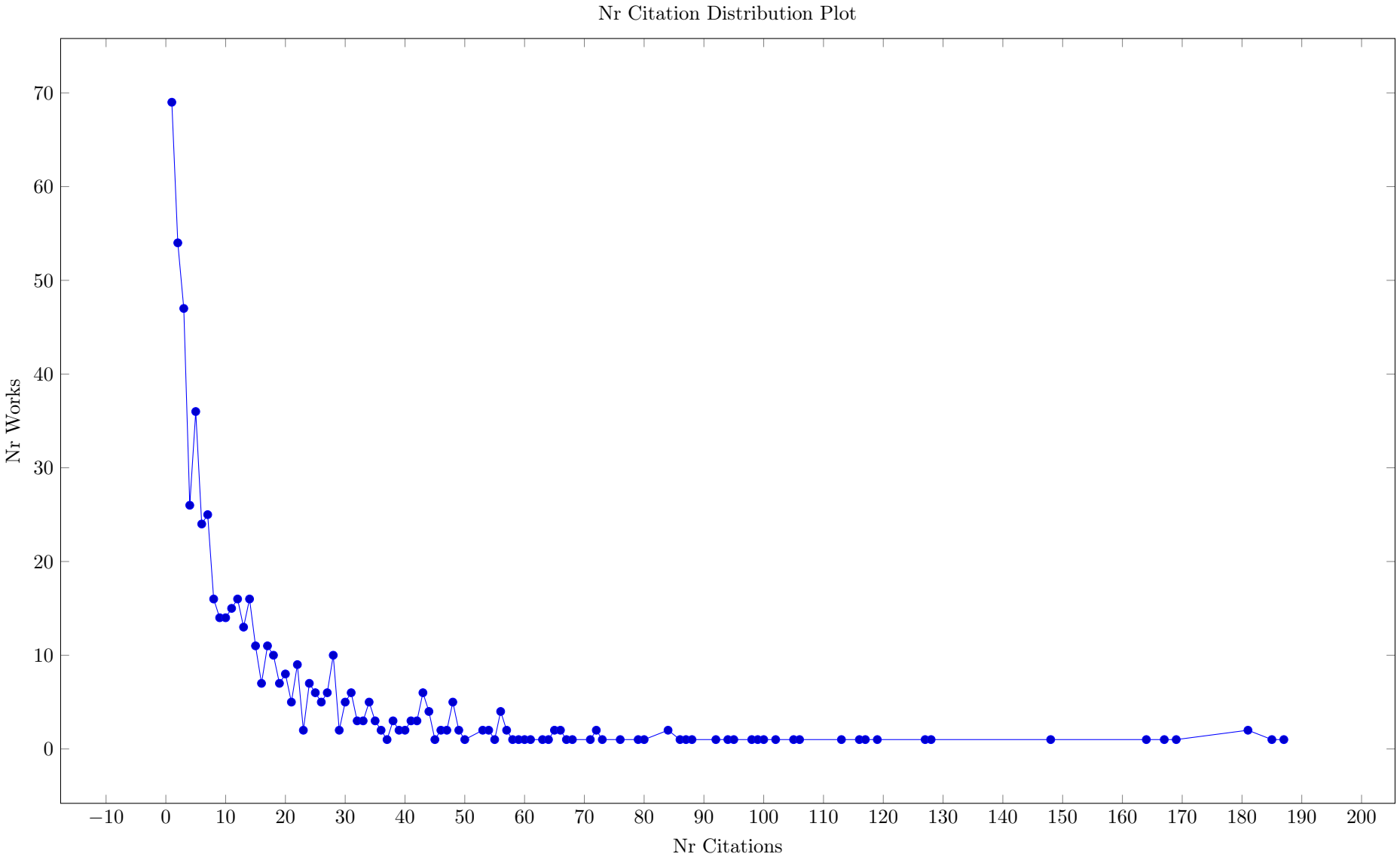
8 Number of Coauthors per Work



9 Number of Works per Author



10 Citation Distribution



11 Similarity Measures

The following distribution plot shows the similarity values between two works based on citations and references counts. If either work does not have citation and reference values, then the similarity is set to NaN. The total similarity count is the average of the similarity for citations and for references. As value we compute the ratio of non-shared references (citations) to the sum of individual references (citations). So both the citation and reference similarity range between zero and one, and the average ranges between zero and one. Low values are very rare, as they require both works to be citing the same papers, and being cited by the same papers. A larger value indicates that items are less similar according to this measure. In the plot we group values into 0.1 wide value bins, so an entry for 0.2 includes values from 0.15 to 0.25.

We observe that low values of this similarity are often found for two works by the same authors that are close in time, where we assumes that the bibliographies in both papers is based on the same literature survey. If neither paper is widely cited, the similarity value is low.

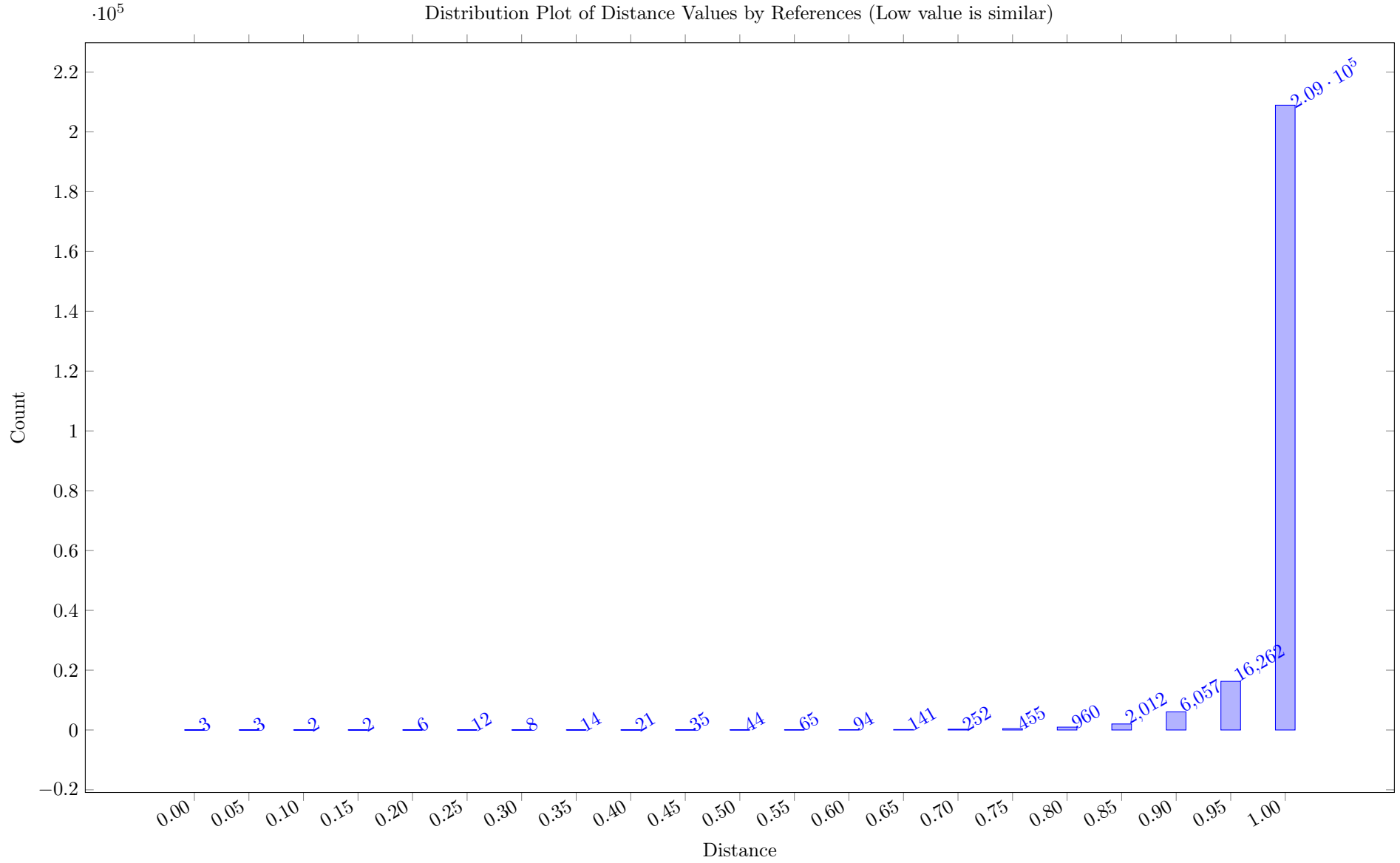
The vast majority of paper pairs has a distance close to one, as their references and citations do not overlap much.

Table 9: Heat Map based on rounded DotProduct Similarity of Concepts (high = similar)

From/To	Total	ZarandiASC20	abs-1902-09244	Schutt11	YunusogluY22	abs-2211-14492	abs-1911-04766	Siala15a	ZhuSZW23	abs-2402-00459	VilimLS15	YuraszeckMCCR23	ZeballosQH10	abs-2305-19888	ZeballosNH11	YuraszeckMPV22	ZeballosH05	Zahout21	TerekhovDOB12	ZhangBB22	UnsalO13	TouatBT22	PrataAN23	Other
Total		82,790	61,789	60,584	60,137	58,743	58,189	57,512	57,465	56,829	56,341	56,296	54,289	53,511	53,353	53,328	52,845	52,722	52,200	52,072	51,983	51,457	51,447	
Baptiste02	77,002	331	167	255	192	158	148	210	154	135	157	163	149	144	157	187	134	159	199	144	144	159	227	73,129
Astrand21	74,829	306	170	213	191	148	157	180	157	140	146	144	130	147	130	169	128	149	171	138	165	159	211	71,180
Beck99	68,030	240	148	214	154	140	138	178	142	136	137	126	136	122	130	124	129	141	149	118	144	130	167	64,787
BartakSR10	64,383	233	128	193	152	139	118	160	137	120	128	118	129	115	126	139	123	134	156	133	130	130	180	61,262
AwadMDMT22	64,332	225	152	165	174	132	129	132	131	120	129	130	130	129	147	131	122	127	148	114	129	141	182	61,213
Dejemeppe16	64,002	335	191	262	209	167	171	232	153	162	156	151	156	143	165	156	137	167	177	146	168	167	232	59,999
AbreuN22	61,881	229	137	146	167	141	108	128	142	124	124	134	111	133	104	161	105	117	126	118	115	124	190	58,897
AfsarVPG23	59,821	189	137	134	142	131	118	122	125	117	118	121	117	102	105	132	106	110	118	107	122	121	148	57,079
AbreuPNF23	59,654	231	144	149	173	125	105	119	130	123	108	125	107	126	107	159	104	117	137	104	118	127	196	56,720
BeckDDF98	58,990	224	141	150	150	123	111	149	123	115	112	110	127	98	133	110	127	112	146	105	120	126	151	56,127
AstrandJZ20	56,536	178	128	143	124	105	109	140	113	101	116	114	100	104	100	116	99	97	120	111	114	107	136	53,961
ArmstrongGOS21	56,461	176	119	145	142	117	124	118	131	104	113	119	110	118	93	116	103	111	103	113	113	107	141	53,825
AbreuNP23	55,411	202	131	128	156	126	94	118	137	106	113	126	99	124	100	150	92	102	120	111	103	117	179	52,677
ArtiguesLH13	55,230	156	118	130	142	105	109	111	85	99	99	94	111	99	117	92	115	105	124	80	106	120	134	52,779
AbreuAPNM21	54,635	208	121	129	147	123	90	114	127	113	103	121	96	111	89	152	86	110	125	109	93	116	175	51,977
ColT22	54,428	249	150	158	174	145	154	155	150	138	135	142	126	136	133	156	120	133	132	126	136	137	179	51,164
Fahimi16	54,215	239	146	240	138	137	139	205	144	118	144	131	130	122	131	131	125	126	158	125	153	135	181	50,917
Groleaz21	54,180	368	192	231	218	188	172	219	186	179	180	159	144	162	151	201	128	190	202	169	155	180	253	49,953
ArkhipovBL19	53,553	140	107	160	105	96	103	117	95	92	129	114	92	94	84	83	82	101	106	99	100	92	110	51,252
BartakSR08	53,436	158	103	152	114	109	95	136	110	102	109	102	95	89	93	112	97	94	118	107	103	98	127	51,013
BeckF98	53,249	184	118	144	122	112	108	142	119	114	113	106	103	97	100	99	102	115	119	96	112	114	133	50,677
AlfieriGPS23	52,631	189	131	115	139	115	83	104	113	114	96	110	90	94	99	130	96	96	127	106	93	128	167	50,096
BlazewiczDP96	52,310	235	126	168	138	126	103	137	122	117	112	101	107	103	103	126	97	117	144	125	111	118	166	49,508
BajestaniB13	51,650	180	112	104	120	100	89	101	112	97	94	86	86	83	102	96	85	106	126	82	94	104	145	49,346
BaptistePN99	51,066	151	111	156	104	93	103	121	87	89	117	111	88	85	84	96	79	104	120	91	95	92	115	48,774
BaptisteP00	50,968	136	102	157	95	88	102	133	88	82	113	103	94	83	93	80	84	103	110	92	109	88	103	48,730
Caballero19	50,906	169	125	213	113	103	121	181	108	90	140	126	109	106	95	81	96	119	114	103	123	105	115	48,251
Godet21a	50,886	256	149	239	157	154	159	224	139	130	162	158	130	130	117	141	121	155	161	137	151	138	167	47,411
BeckF00	50,446	153	106	159	100	99	96	151	106	87	108	94	95	79	99	90	96	84	112	97	106	95	104	48,130
BaptisteP97	50,426	141	108	157	92	85	104	127	85	84	114	104	88	80	92	80	82	101	110	89	108	88	103	48,204
Astrand0F21	49,884	123	96	117	97	91	97	120	98	94	106	98	88	86	81	93	90	83	93	103	95	94	105	47,736
BonninMNE24	49,643	170	111	154	118	102	110	125	106	99	113	106	99	101	92	129	97	107	127	107	117	119	147	47,087
Adelgren2023	49,337	138	85	102	104	90	84	90	95	80	90	85	80	99	84	99	78	91	91	89	94	89	114	47,286
BidotVLB09	49,090	186	129	123	130	102	102	118	97	100	104	113	113	89	109	109	112	92	128	91	94	115	130	46,604
BeckW07	48,807	168	121	132	102	100	93	119	94	94	114	117	97	87	89	101	98	105	118	94	88	111	123	46,442
BeckPS03	48,796	154	123	129	118	107	97	122	99	98	107	111	107	92	106	97	110	88	115	92	99	111	123	46,391
ArtiguesF07	47,690	145	97	135	120	105	70	122	111	90	105	100	91	97	84	108	85	82	106	118	84	89	114	45,432
BonfiettiLBM14	46,612	132	106	141	95	93	102	133	98	92	116	105	91	85	90	78	91	96	97	89	104	103	99	44,376
Bit-Monnot23	46,515	133	102	143	92	102	103	165	109	98	118	105	86	86	83	101	88	93	98	110	96	93	109	44,202
BosiM2001	46,476	152	104	142	120	112	100	141	96	103	113	112	103	96	92	100	92	98	118	107	90	103	129	44,053
AntuoriHHEN20	46,095	130	100	106	92	106	86	100	71	98	80	78	81	67	80	79	84	74	93	77	78	87	100	44,148
ChenGPSH10	45,989	164	95	147	99	107	96	136	109	95	109	97	101	81	104	100	100	93	112	99	111	89	115	43,630
Other		74,584	56,502	53,904	54,506	53,796	53,489	51,557	52,531	52,240	51,341	51,426	49,767	49,087	48,880	48,338	48,520	48,018	46,826	47,501	47,200	46,591	45,222	

Table 10: Heat Map based on 100*Cosine Similarity of Concepts (high = similar)

From/To	Total	ZeballosH05	abs-2312-13682	ZhangYW21	VilimLS15	ZeballosQH10	abs-1901-07914	abs-2305-19888	Wolf05	abs-1902-09244	WolfS05	abs-2306-05747	ZouZ20	VilimBC05	YuraszeckMCCR23	VilimBC04	WikarekS19	abs-1009-0347	abs-2402-00459	abs-2211-14492	ZeballosNH11	WatsonB08	ZhangBB22	Other
Total		41,066	40,441	40,204	40,031	39,654	39,539	39,175	39,159	38,824	38,743	38,556	38,425	38,368	38,344	38,310	38,186	38,136	38,083	38,014	37,959	37,915	37,577	
BartakSR08	39,892	67	57	65	69	62	59	59	68	58	59	60	57	75	62	75	71	53	61	63	59	65	70	38,498
BeckPS03	39,796	82	62	74	74	76	67	66	73	76	55	67	57	71	73	71	71	63	64	68	73	74	65	38,274
ArkhipovBL19	39,791	56	55	69	81	60	56	62	71	60	66	57	50	63	69	61	71	75	55	56	53	61	64	38,420
AfsarVPG23	39,467	65	54	74	67	68	53	60	63	69	46	66	59	60	66	63	56	51	63	68	59	69	62	38,106
Bartak02a	39,380	67	60	63	71	64	64	55	64	57	61	57	59	68	61	70	67	64	61	59	59	61	59	38,009
AstrandJZ18	38,990	67	70	54	64	65	71	56	61	52	64	52	57	61	55	58	56	64	49	51	54	57	53	37,699
Astrand0F21	38,904	65	64	68	70	60	65	59	62	56	50	63	49	66	62	65	66	59	59	55	53	65	70	37,553
AstrandJZ20	38,670	63	60	68	67	60	55	63	60	67	45	64	52	67	64	66	63	57	56	56	58	67	66	37,326
AalianPG23	38,603	60	74	55	62	59	60	61	59	59	63	56	55	60	53	61	52	64	45	44	50	56	53	37,342
Adelgren2023	38,147	56	60	60	59	54	58	67	62	50	54	55	49	53	54	52	57	46	50	54	55	59	60	36,923
Beck07	37,926	66	58	75	73	62	56	56	67	65	46	70	55	67	67	74	64	61	63	68	58	85	71	36,499
ArtiguesLH13	37,826	73	58	51	58	66	51	60	61	61	63	49	55	57	53	57	51	50	55	56	68	50	48	36,575
AngelsmarkJ00	37,435	54	49	50	55	51	59	46	58	38	65	48	48	51	51	50	55	41	51	52	52	54	47	36,310
AwadMDMT22	37,362	66	53	65	64	67	47	67	68	68	55	58	57	62	62	59	58	55	57	60	73	58	58	36,025
BaptisteP97	37,207	56	53	66	71	57	48	52	69	60	61	54	53	69	62	72	62	70	50	49	58	56	57	35,902
Alaka21	37,141	60	55	63	53	61	57	55	52	53	58	47	68	55	54	49	53	56	59	48	47	47	53	35,938
BeckF00a	36,666	65	52	59	65	60	60	51	69	50	58	53	58	79	55	78	64	55	49	54	61	63	54	35,354
Beck06	36,653	68	62	69	65	62	62	55	64	64	46	70	42	60	65	65	67	50	64	70	59	86	67	35,271
BeckDDF98	36,602	73	57	64	59	69	61	54	60	66	50	57	55	63	56	64	65	48	57	59	70	59	57	35,279
AkramNHRSA23	36,529	55	56	62	56	55	64	60	57	46	61	57	55	47	52	46	45	51	64	63	42	58	50	35,327
BeckFW11	36,444	62	62	74	74	66	60	64	68	62	50	78	46	63	70	69	69	60	68	72	52	93	73	34,989
AlakaPY19	36,441	58	51	59	53	58	54	52	50	51	59	43	69	55	51	47	50	55	55	46	49	42	51	35,283
ArtiguesBF04	36,432	58	50	71	67	61	49	65	64	54	40	62	39	69	65	67	72	52	55	61	56	75	77	35,103
BaptistePN99	36,283	52	50	66	71	55	44	53	70	60	56	54	43	67	64	69	66	63	51	52	51	57	56	35,013
BeckF98	36,253	64	48	72	65	61	62	58	66	61	50	59	55	66	59	68	65	57	62	59	58	61	57	34,920
BockmayrP06	36,203	67	75	51	61	65	71	61	63	56	81	56	54	59	56	56	59	58	59	55	55	59	51	34,875
BartakSR10	36,201	64	47	62	62	64	59	57	69	55	56	55	50	69	55	67	70	49	55	61	61	56	66	34,892
BenderWS21	36,162	69	70	65	70	65	70	70	68	63	62	59	61	62	66	63	64	67	48	53	60	64	56	34,767
BaptisteP00	36,161	55	51	63	68	58	46	52	67	55	59	52	51	66	60	69	62	66	47	49	56	56	57	34,896
BaptisteB18	36,151	55	61	57	66	56	60	61	68	49	69	51	46	59	56	59	62	68	49	47	52	51	49	34,900
AbreuN22	36,136	58	56	66	63	58	50	70	55	62	47	62	49	53	65	55	57	46	59	65	52	63	61	34,864
BeckW07	36,111	67	54	72	71	62	61	56	67	68	50	60	58	67	70	69	67	66	56	57	56	64	60	34,733
Bartak02	36,102	58	52	48	61	54	58	45	58	44	62	44	56	62	49	61	67	50	47	48	60	48	48	34,922
AlakaP23	36,078	55	51	63	51	58	60	52	45	50	54	43	66	52	51	45	53	53	54	44	47	44	49	34,938
Balduccini11	35,971	58	51	50	58	43	46	42	50	51	62	52	53	59	47	59	60	50	54	51	58	52	48	34,817
ArtiguesF07	35,908	60	48	73	68	61	47	65	64	56	38	60	42	70	62	67	69	52	55	63	55	71	79	34,583
AlesioNBG14	35,803	55	51	55	52	59	57	55	65	44	64	51	60	49	52	49	49	48	48	48	57	51	50	34,634
BeckDSF97a	35,803	63	50	66	65	61	61	51	66	58	46	59	50	72	58	78	60	55	48	59	59	71	59	34,488
BeckDSF97	35,794	58	52	61	64	56	54	48	63	56	55	55	53	74	57	78	63	54	50	54	60	59	54	34,516
Beck99	35,791	63	52	66	61	63	56	57	65	59	54	57	55	68	54	68	60	60	58	58	58	63	54	34,482
BeniniLMR11	35,771	68	64	59	64	65	63	60	63	59	62	54	65	60	58	59	57	71	54	53	63	57	53	34,440
AlesioBNG15	35,690	53	51	61	53	57	56	56	58	47	61	52	65	48	55	49	48	45	53	52	52	54	49	34,515
Other		38,462	38,075	37,550	37,340	37,110	37,122	36,761	36,519	36,429	36,380	36,178	36,149	35,745	35,868	35,683	35,623	35,758	35,766	35,654	35,571	35,354	35,136	


Distribution Plot of Distance Values by References (Low value is similar)
$\cdot 10^5$
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0.6
0.4
0.2
0
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0.00
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0.10
0.15
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0.25
0.30
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0.45
0.50
0.55
0.60
0.65
0.70
0.75
0.80
0.85
0.90
0.95
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3
3
2
2
6
12
8
14
21
35
44
65
94
141
252
455
960
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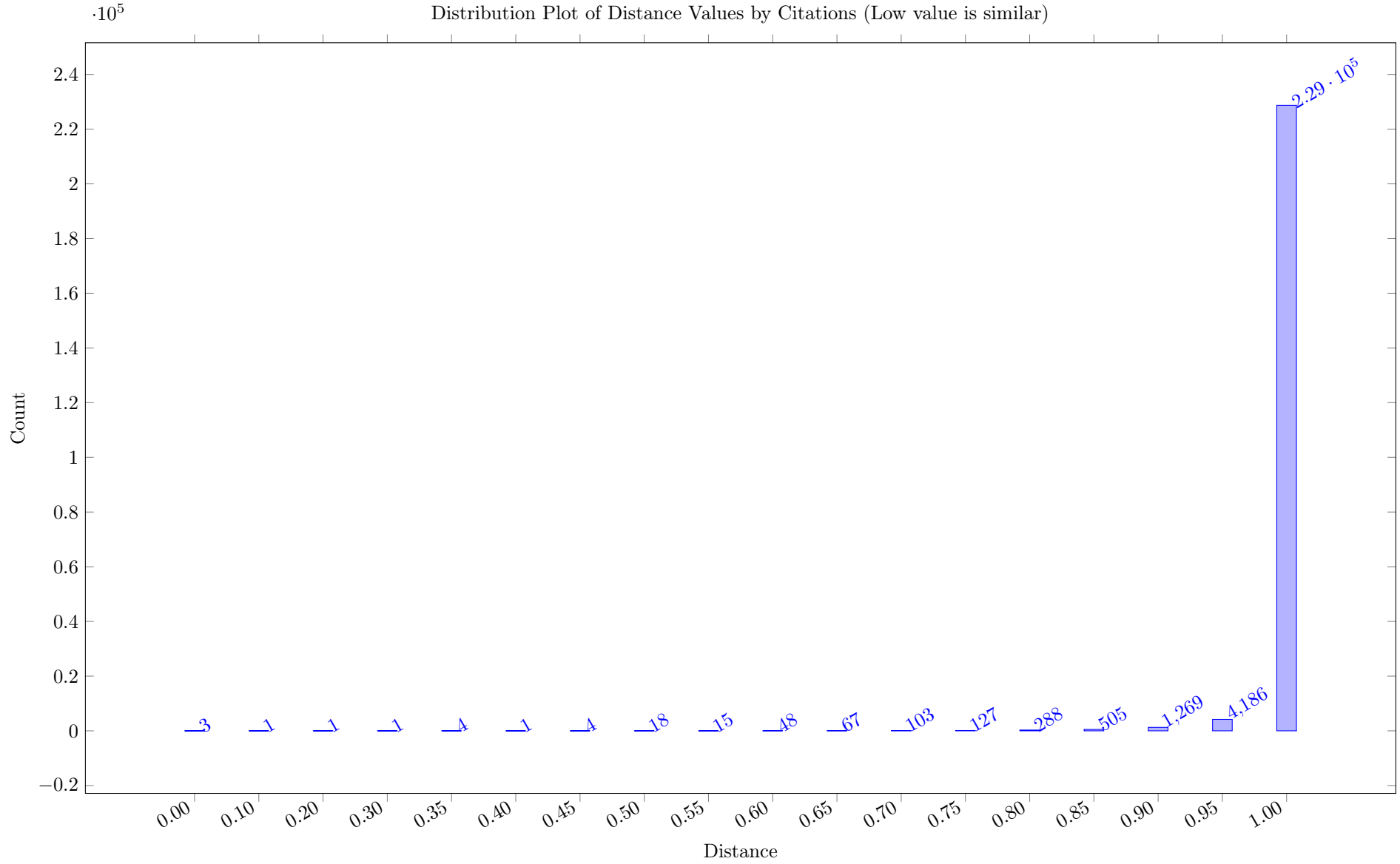
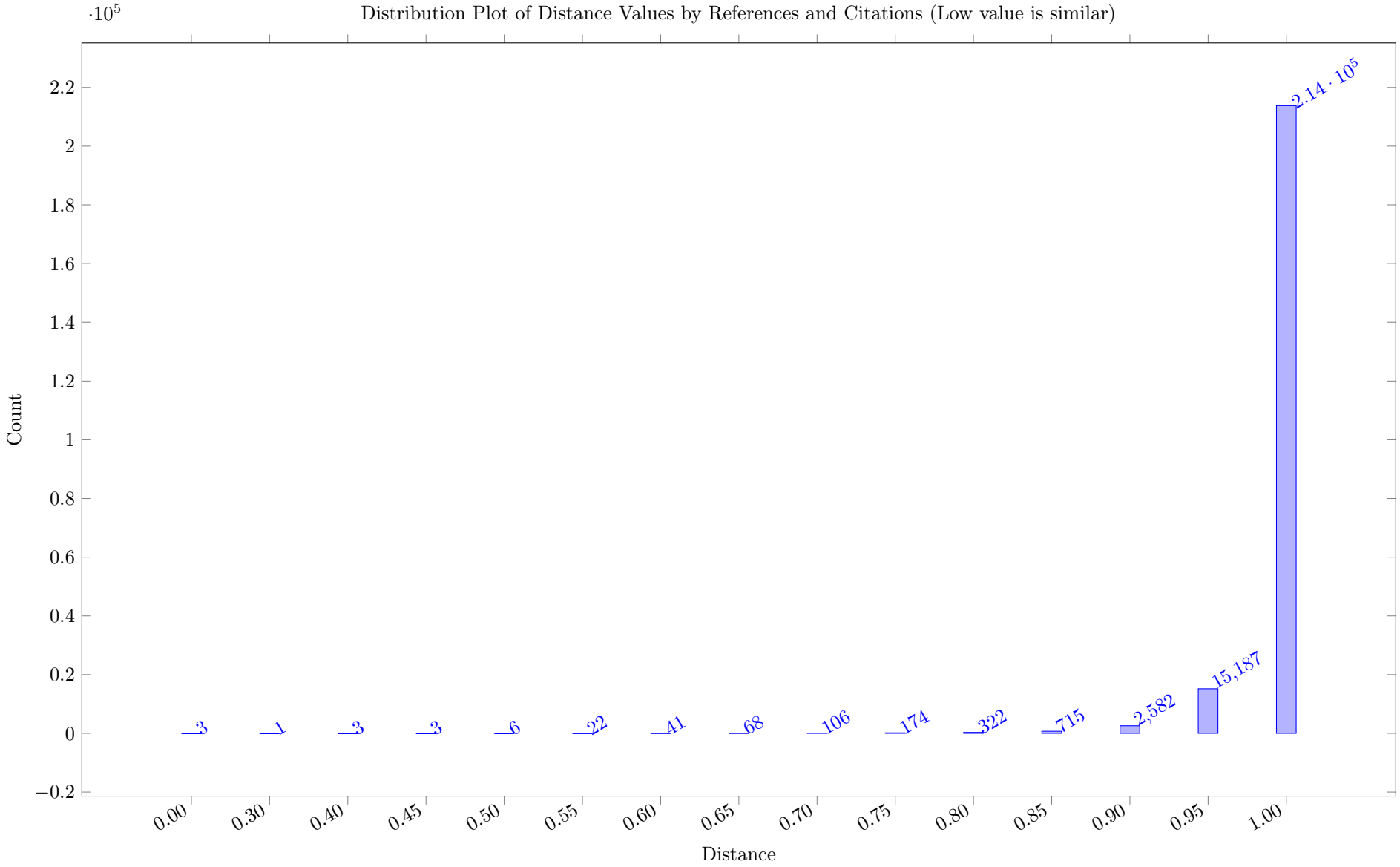
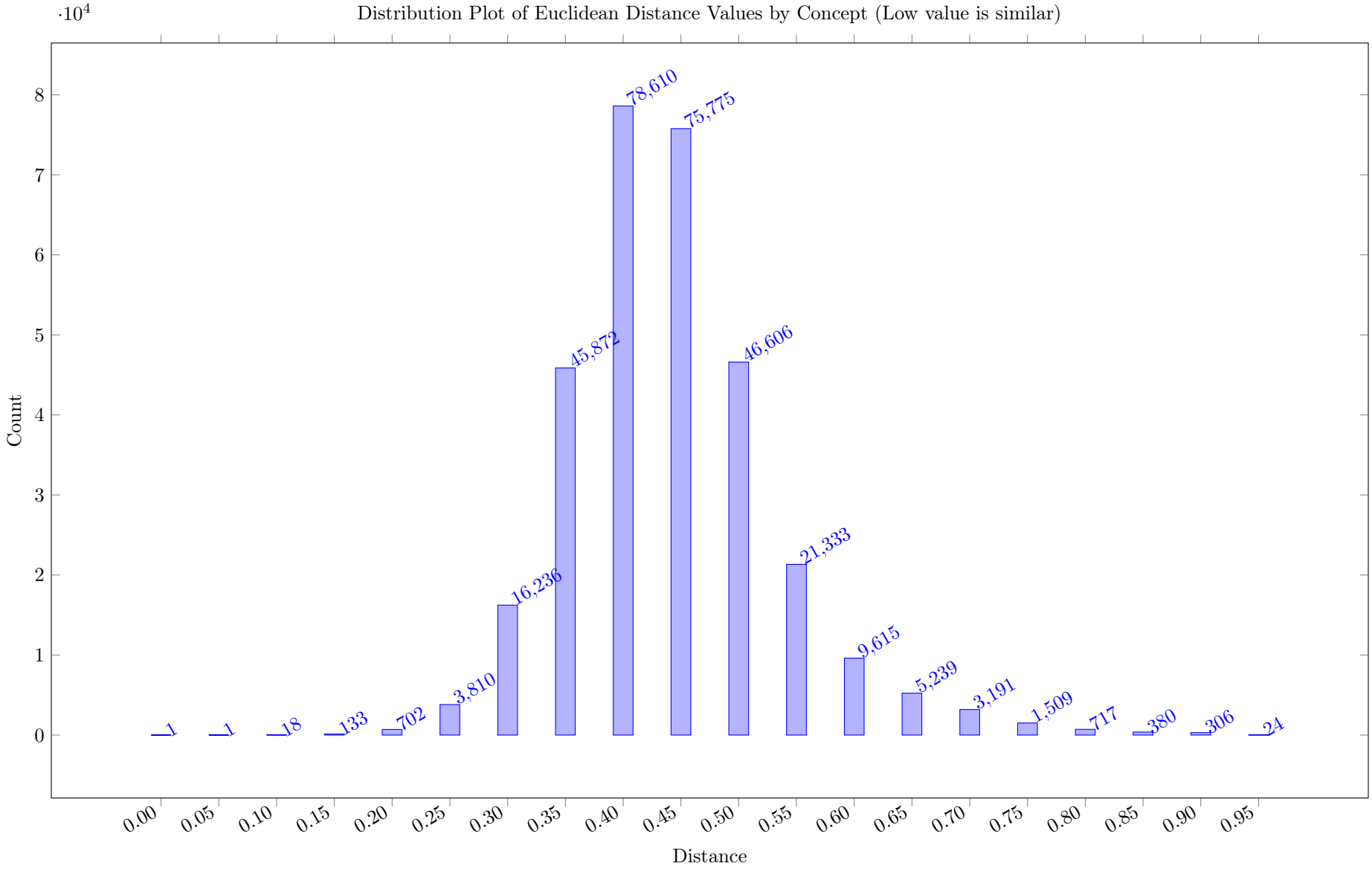
6,057
16,262
$2.09 \cdot 10^5$

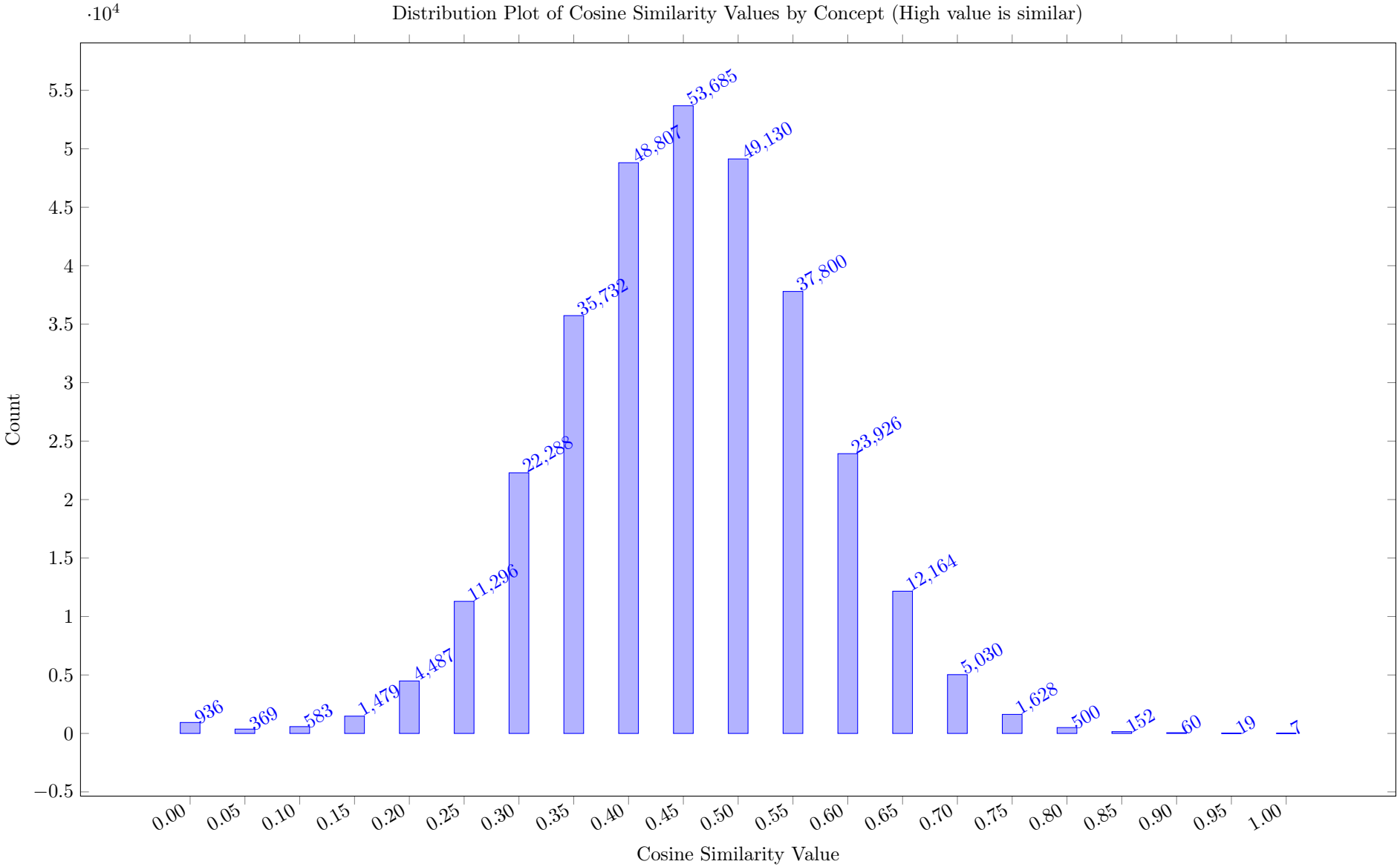

Distribution Plot of Distance Values by Citations (Low value is similar)
$\cdot 10^5$
Count
Distance
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
−0.2
0.00
0.10
0.20
0.30
0.35
0.40
0.45
0.50
0.55
0.60
0.65
0.70
0.75
0.80
0.85
0.90
0.95
1.00
3
1
1
1
4
1
4
18
15
48
67
103
127
288
505
1,269
4,186
$2.29 \cdot 10^5$

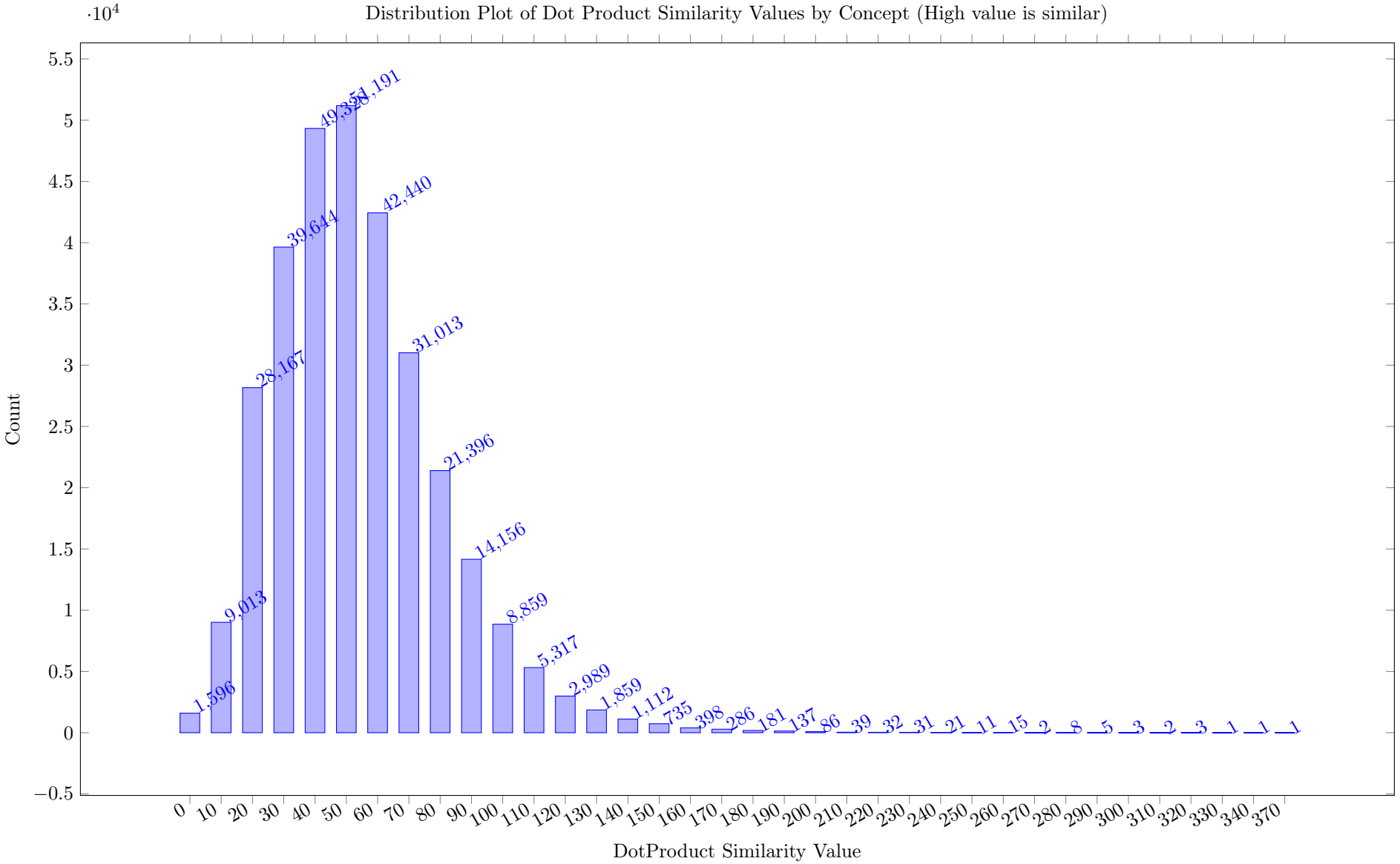


The similarity by concept uses the Euclidean distance between the feature vectors for two works. We translate the MatchLevel for each Concept into a linear

scale, and then calculate the distances as the square root of the sum of squared differences for each feature. The distribution plot below rounds the distances to integer values. Similarity values of this type are only calculated when both works have a local copy, from which we extract the features. If either work does not have a local copy, the similarity is set to be NaN.


Distribution Plot of Euclidean Distance Values by Concept (Low value is similar)
$\cdot 10^4$
Count
Distance
0
1
2
3
4
5
6
7
8
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0.45
0.50
0.55
0.60
0.65
0.70
0.75
0.80
0.85
0.90
0.95
1
1
18
133
702
3,810
16,236
45,872
78,610
75,775
46,606
21,333
9,615
5,239
3,191
1,509
717
380
306
24

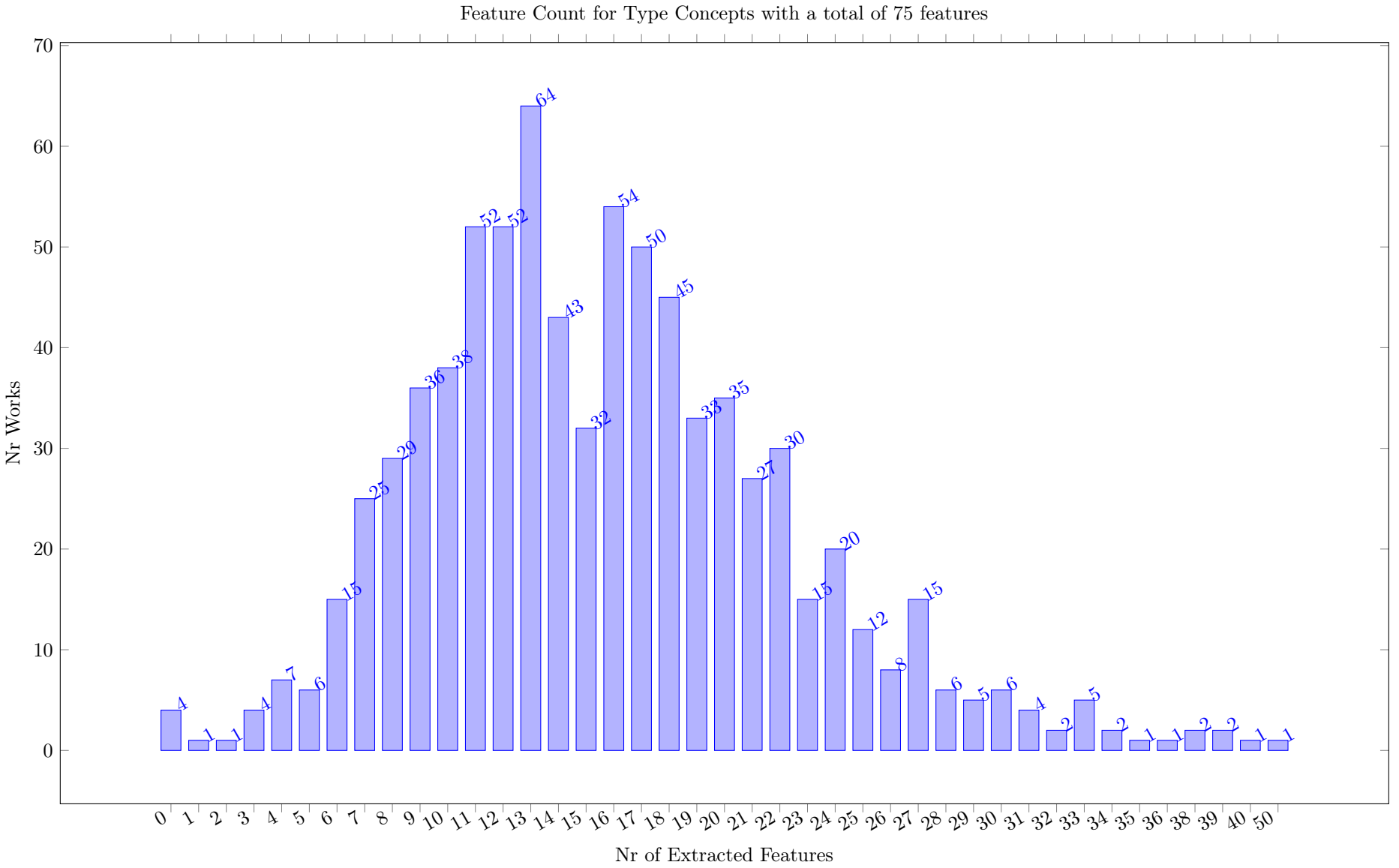

Distribution Plot of Cosine Similarity Values by Concept (High value is similar)
$\cdot 10^4$
Count
Cosine Similarity Value
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
−0.5
936
369
583
1,479
4,487
11,296
22,288
35,732
48,807
53,685
49,130
37,800
23,926
12,164
5,030
1,628
500
152
60
19
7
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0.35
0.40
0.45
0.50
0.55
0.60
0.65
0.70
0.75
0.80
0.85
0.90
0.95
1.00

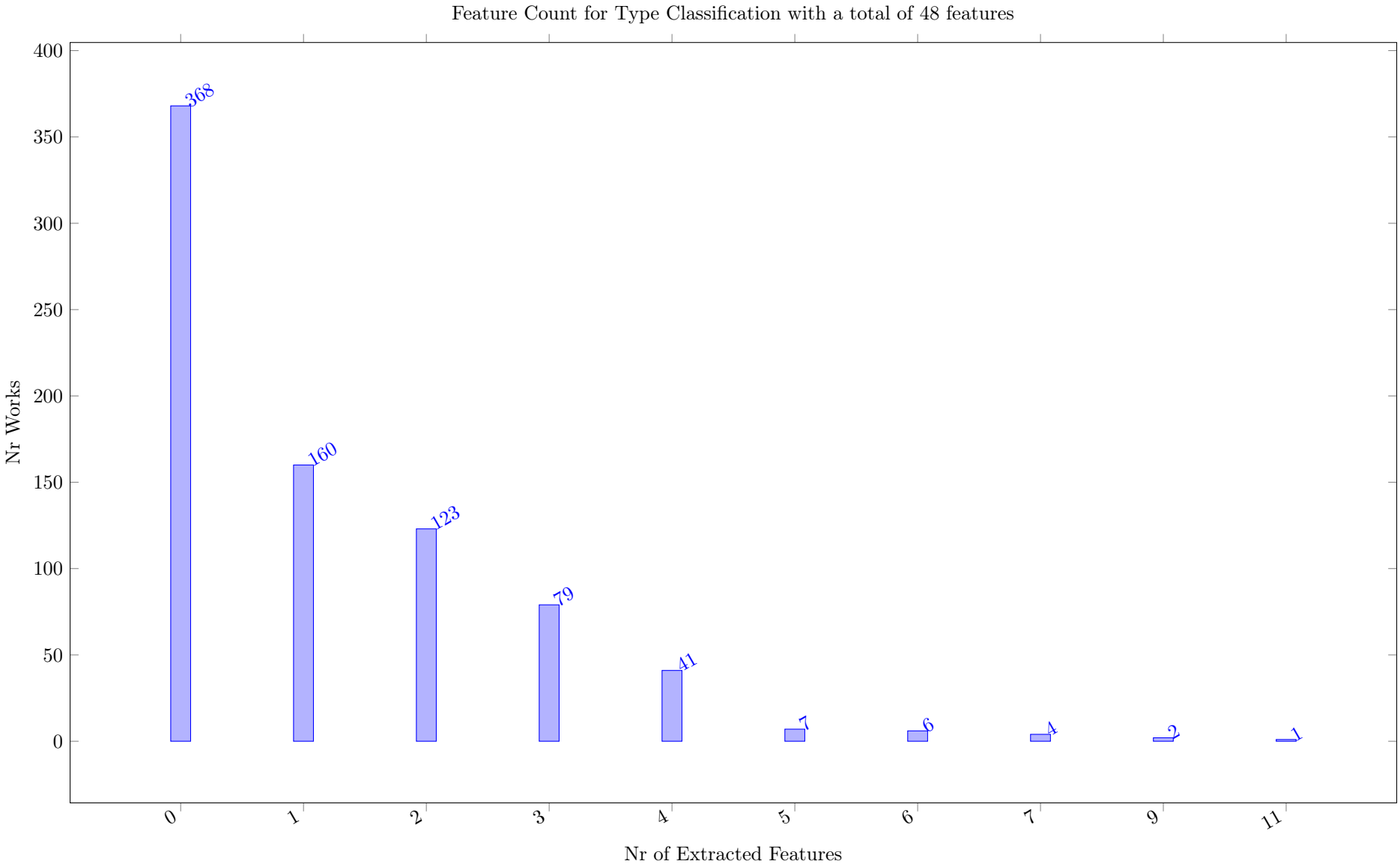

Distribution Plot of Dot Product Similarity Values by Concept (High value is similar)
$\cdot 10^4$
Count
DotProduct Similarity Value
1,596
9,013
28,167
39,644
49,328
51,191
42,440
31,013
21,396
14,156
8,859
5,317
2,989
1,859
1,112
735
398
286
181
137
86
39
32
31
21
11
15
2
8
5
3
2
3
1
1
1

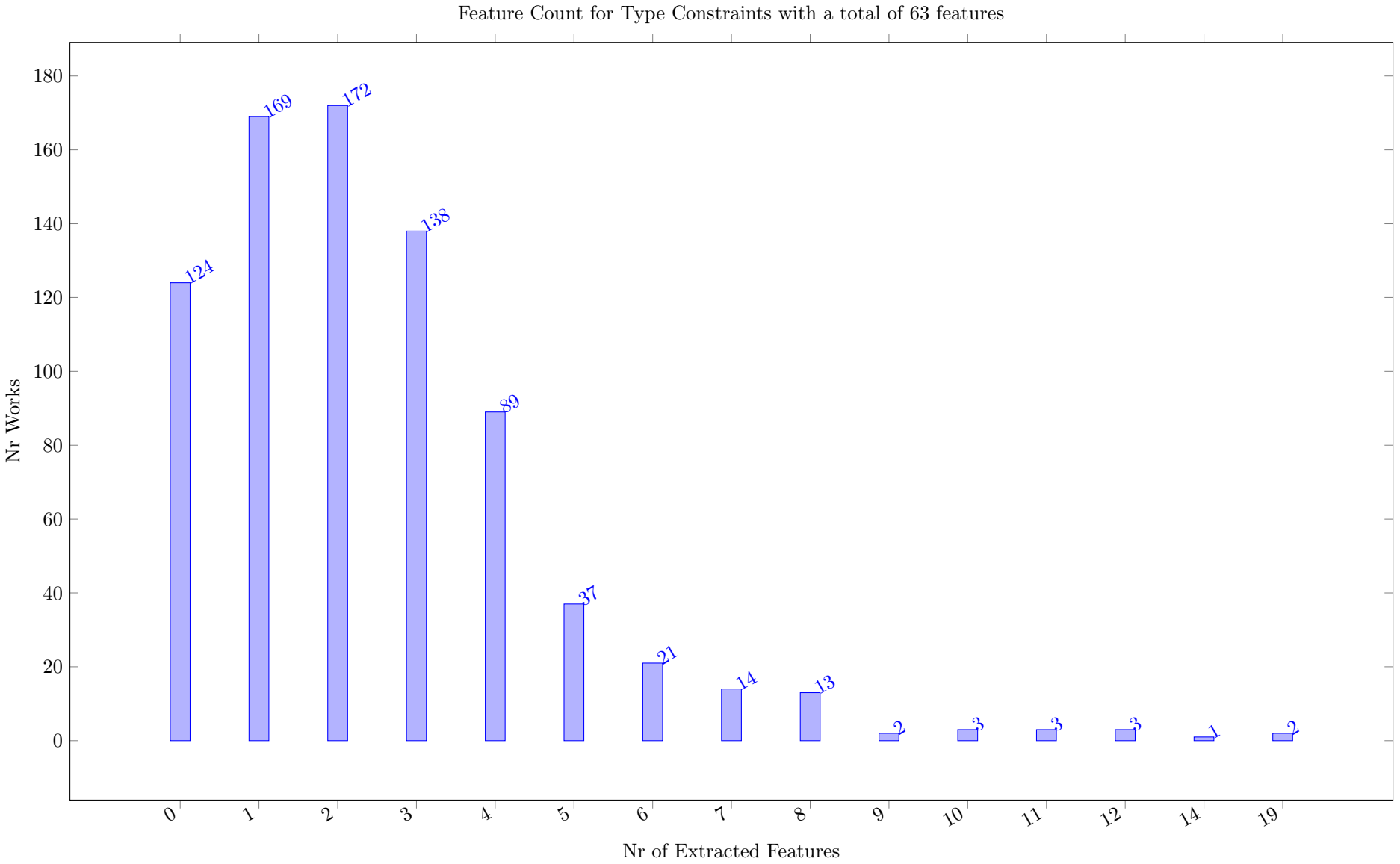
12 Concept Distribution

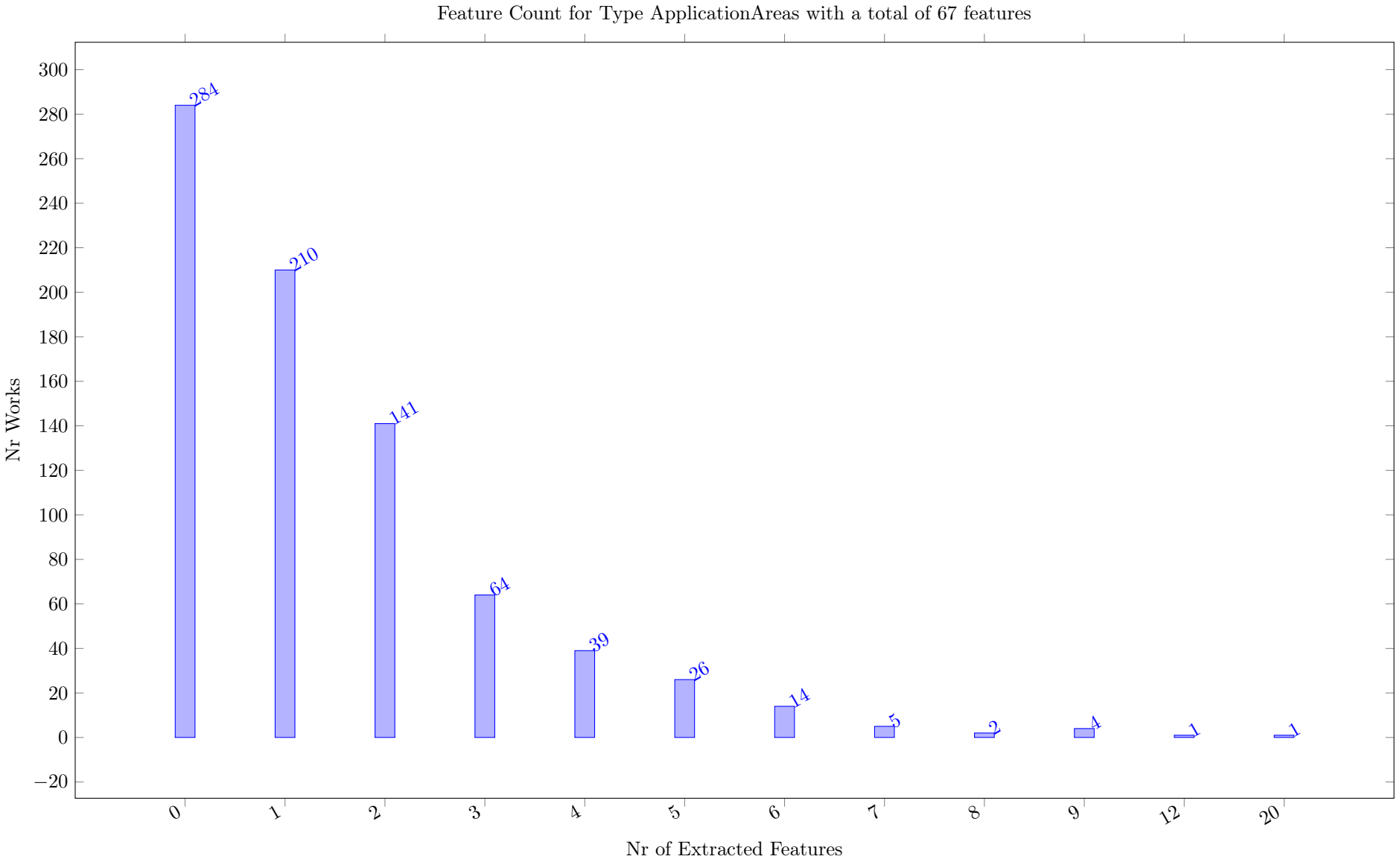
For each concept type, we count how many features are extracted by the individual works that do have a local copy, e.g. for which we can extract features. We can compare the number of features extracted to the number of concepts of a given type, which is stated in the title of the diagram.

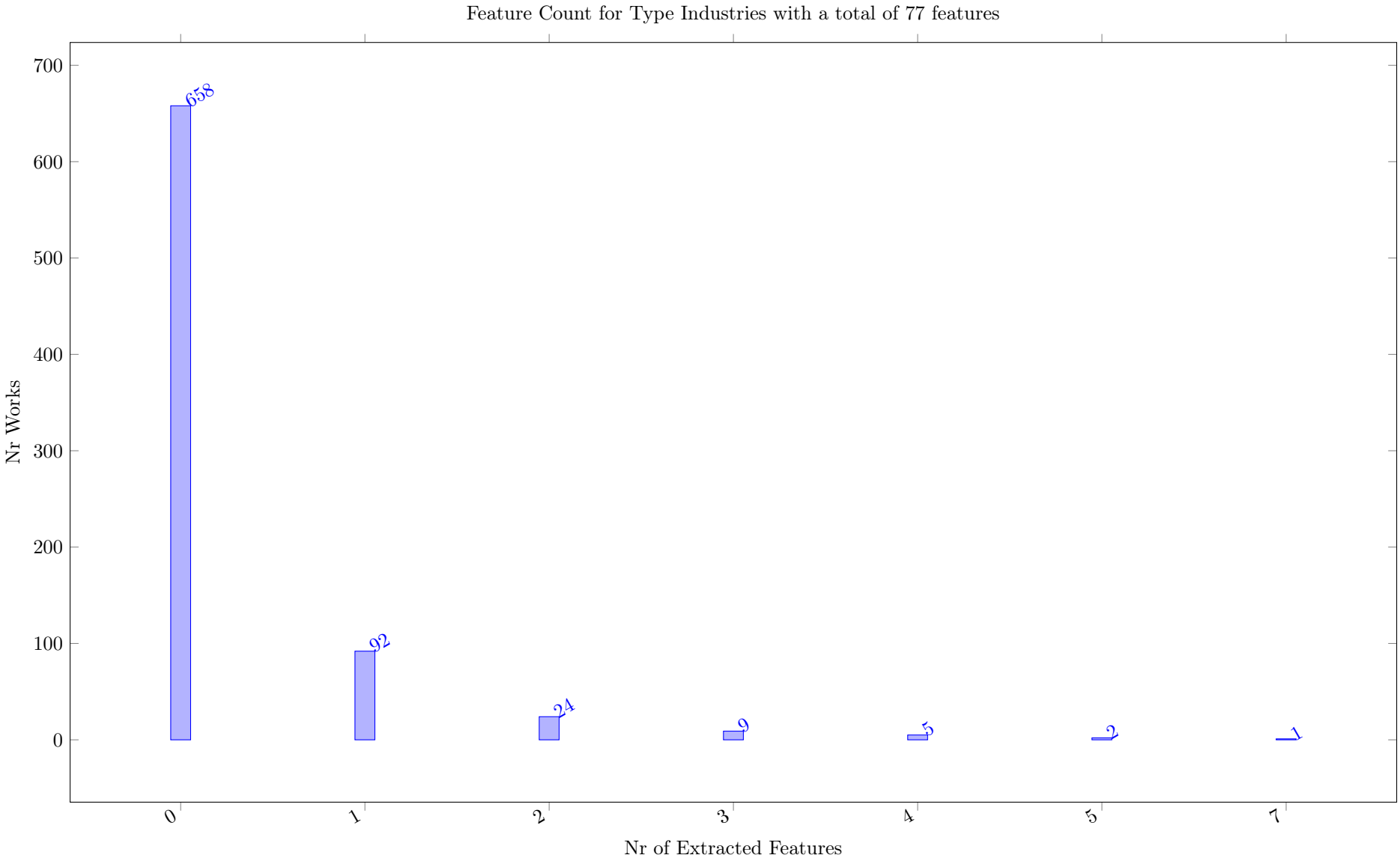
A high count indicates that a work covers many of the concepts of the given type, a low count might mean that our ontology does not have relevant concepts for that work.

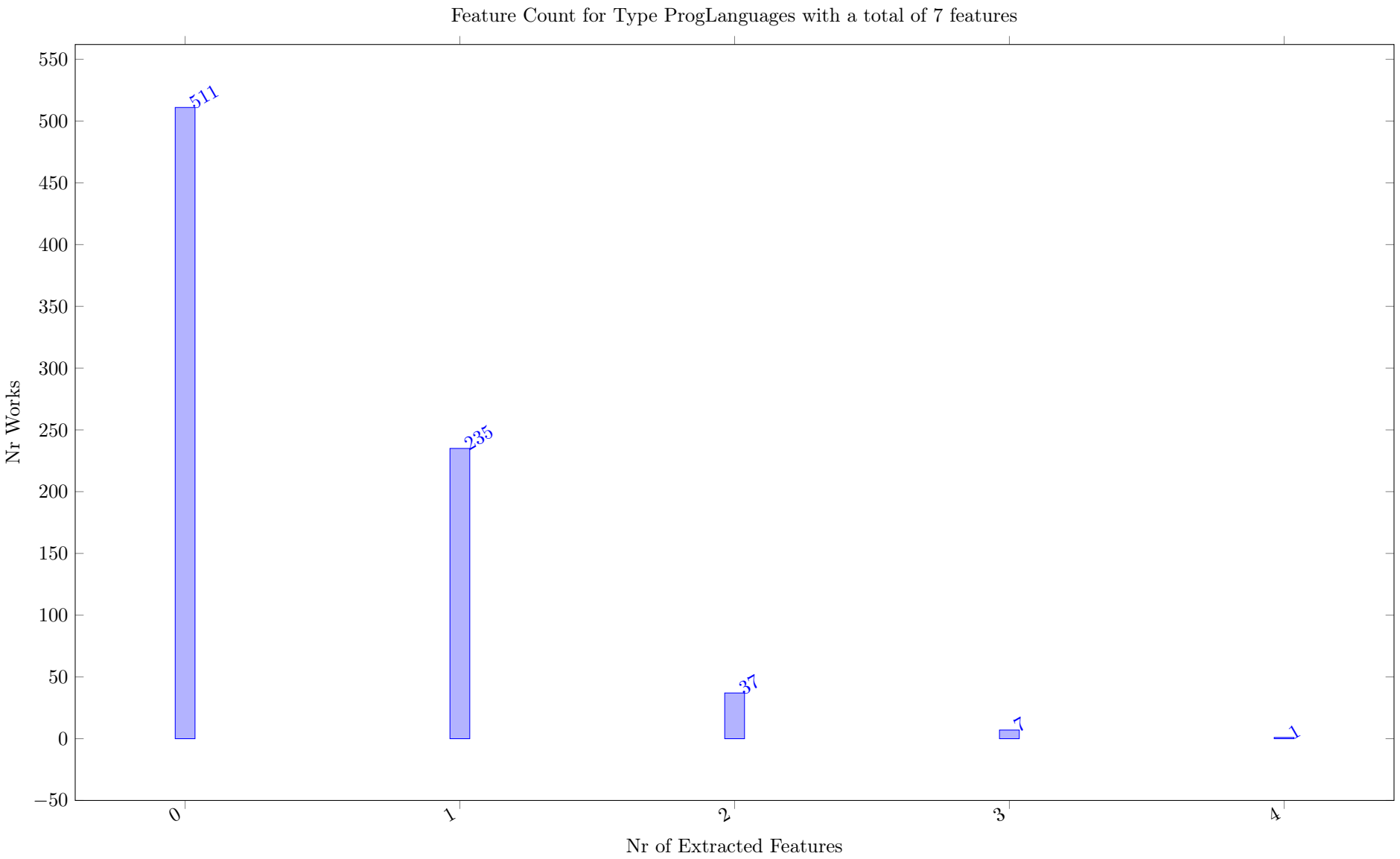

Feature Count for Type Concepts with a total of 75 features
Nr Works
Nr of Extracted Features
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 38 39 40 50
4 1 1 4 7 6 15 25 29 36 38 52 52 64 43 32 54 50 45 33 35 27 30 15 20 12 8 15 6 5 6 4 2 5 2 1 1 2 2 1 1

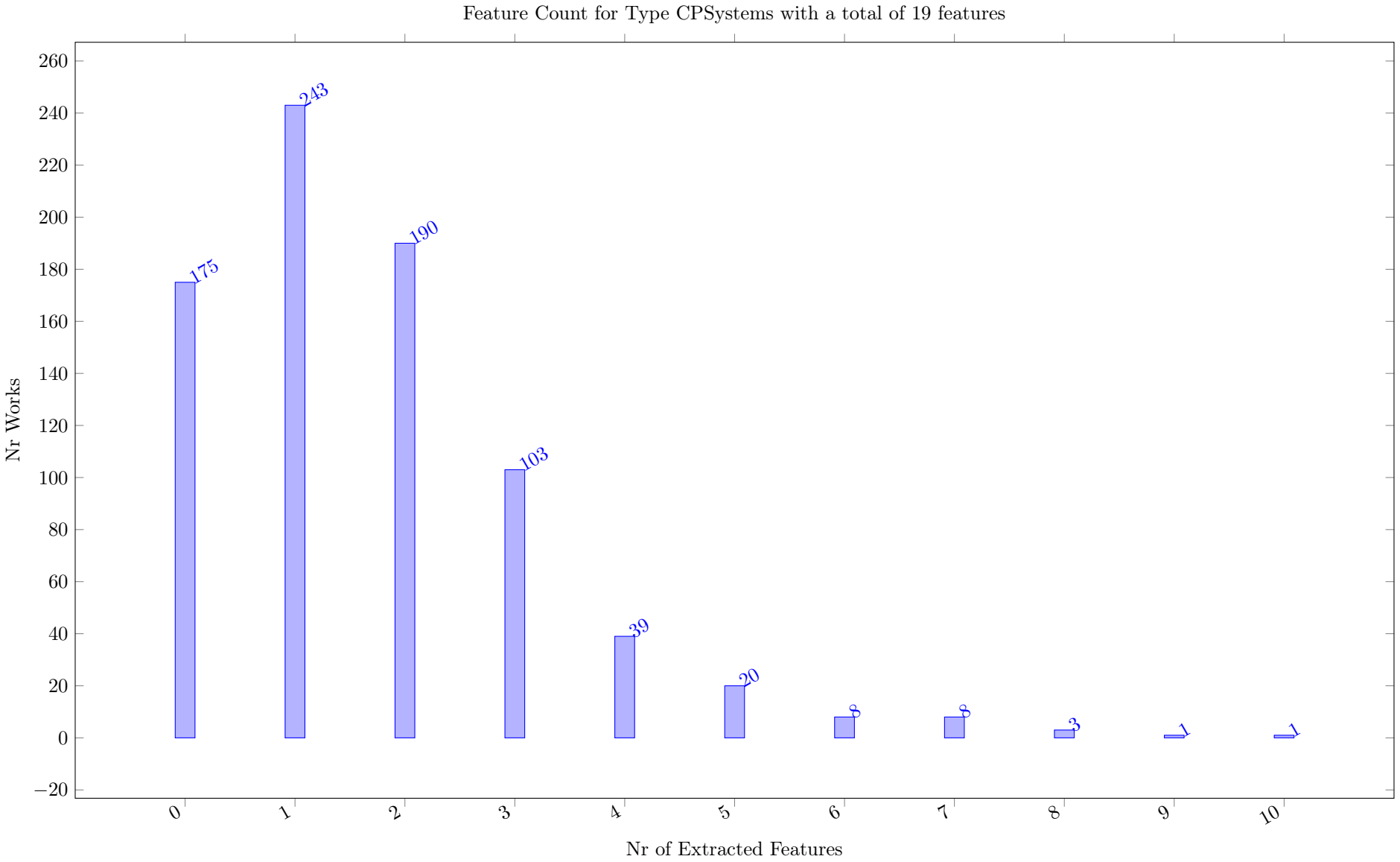

Feature Count for Type Classification with a total of 48 features
Nr Works
Nr of Extracted Features
400
350
300
250
200
150
100
50
0
368
160
123
79
41
7
6
4
2
1
0
1
2
3
4
5
6
7
9
11

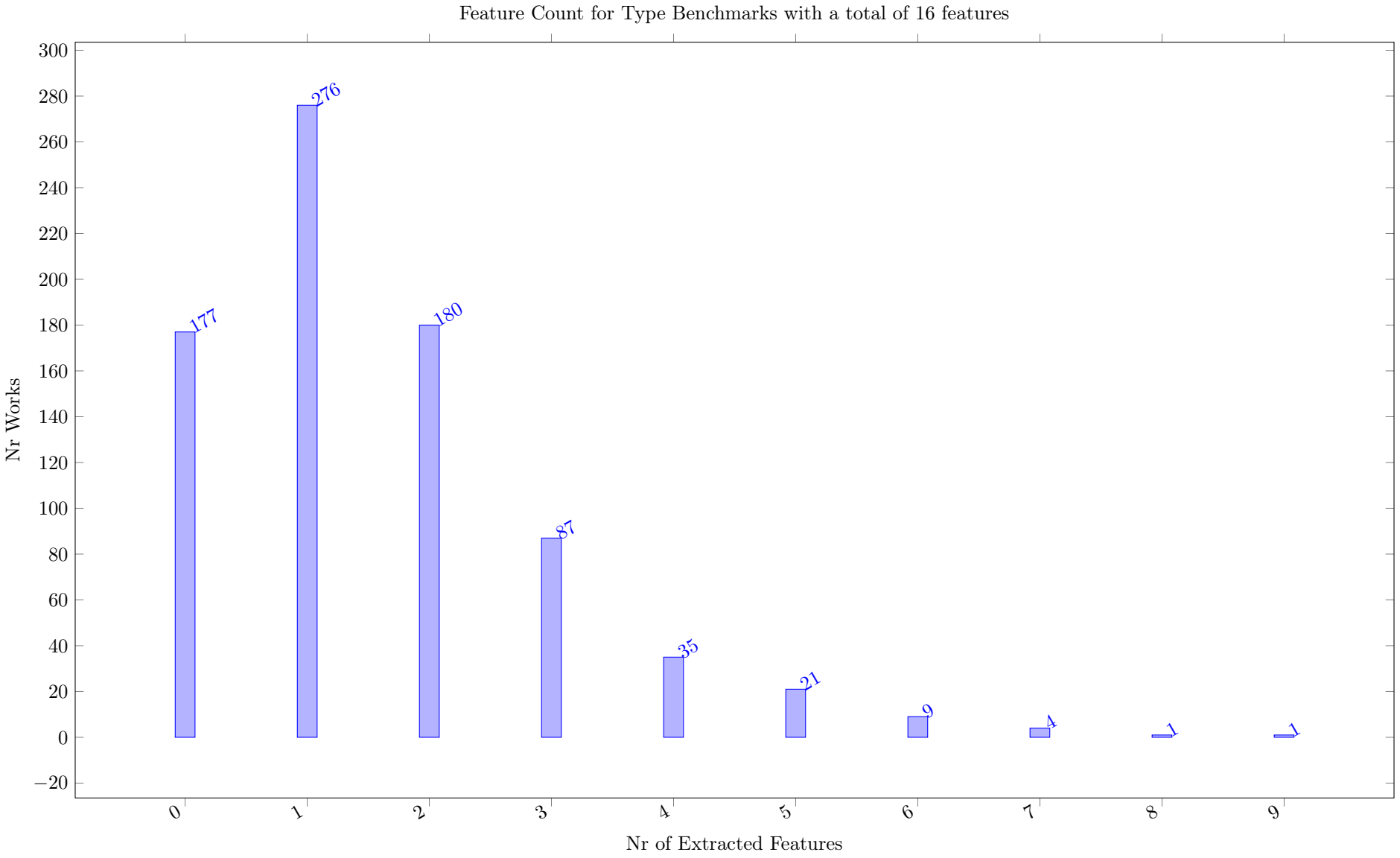

Feature Count for Type Constraints with a total of 63 features
Nr Works
Nr of Extracted Features
0
20
40
60
80
100
120
140
160
180
0
1
2
3
4
5
6
7
8
9
10
11
12
14
19
124
169
172
138
89
37
21
14
13
2
3
3
3
1
2

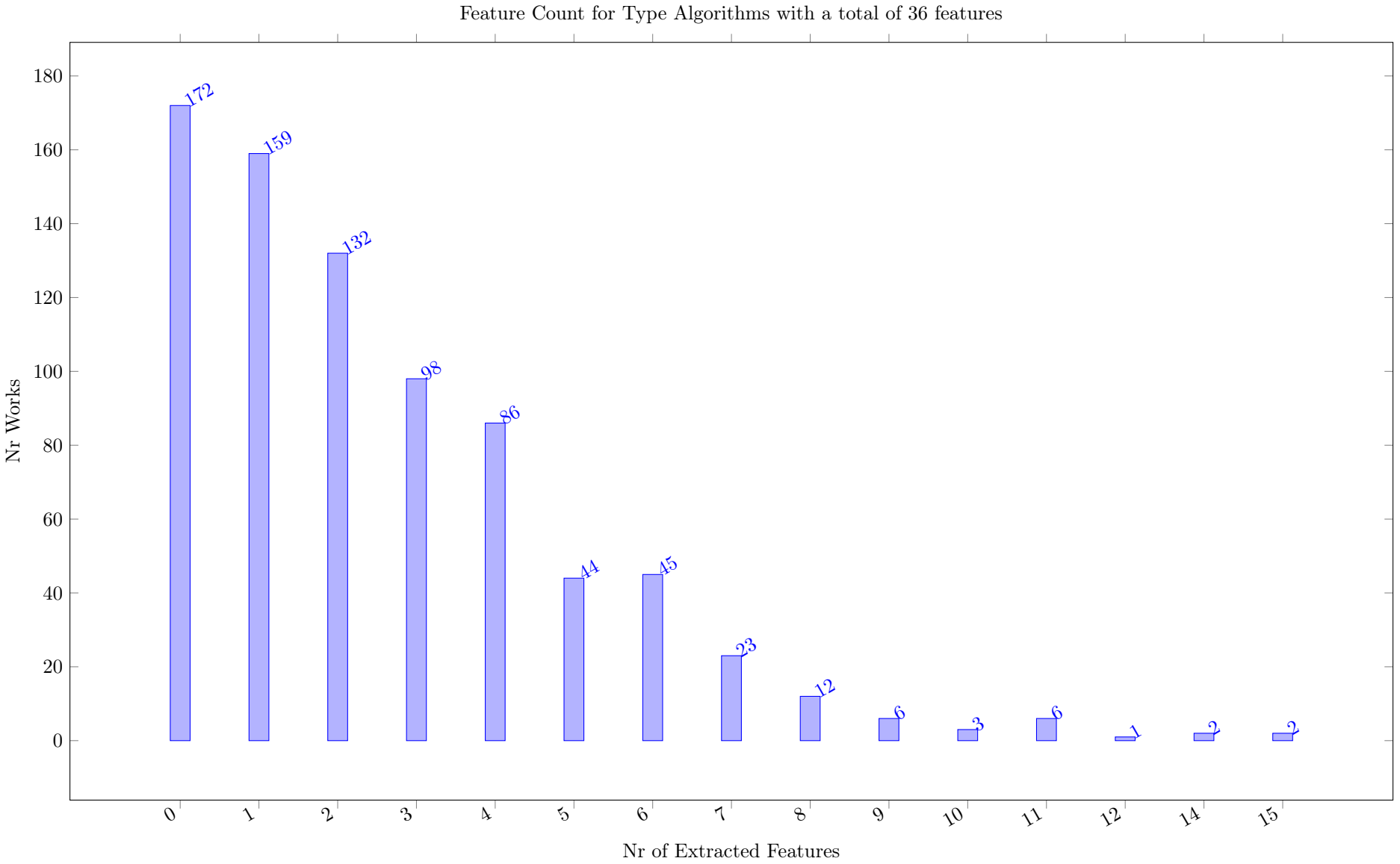

Feature Count for Type ApplicationAreas with a total of 67 features
Nr Works
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
−20
284
210
141
64
39
26
14
5
2
4
1
1
0
1
2
3
4
5
6
7
8
9
12
20
Nr of Extracted Features


Feature Count for Type Industries with a total of 77 features
Nr Works
700
600
500
400
300
200
100
0
658
92
24
9
5
2
1
0
1
2
3
4
5
7
Nr of Extracted Features


Feature Count for Type ProgLanguages with a total of 7 features
Nr Works
550
500
450
400
350
300
250
200
150
100
50
0
−50
511
235
37
7
1
0
1
2
3
4
Nr of Extracted Features


Feature Count for Type CPSystems with a total of 19 features
Nr Works
Nr of Extracted Features
260
240
220
200
180
160
140
120
100
80
60
40
20
0
−20
0
1
2
3
4
5
6
7
8
9
10
175
243
190
103
39
20
8
8
3
1
1


Feature Count for Type Benchmarks with a total of 16 features
Nr Works
Nr of Extracted Features
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
−20
0
1
2
3
4
5
6
7
8
9
177
276
180
87
35
21
9
4
1
1

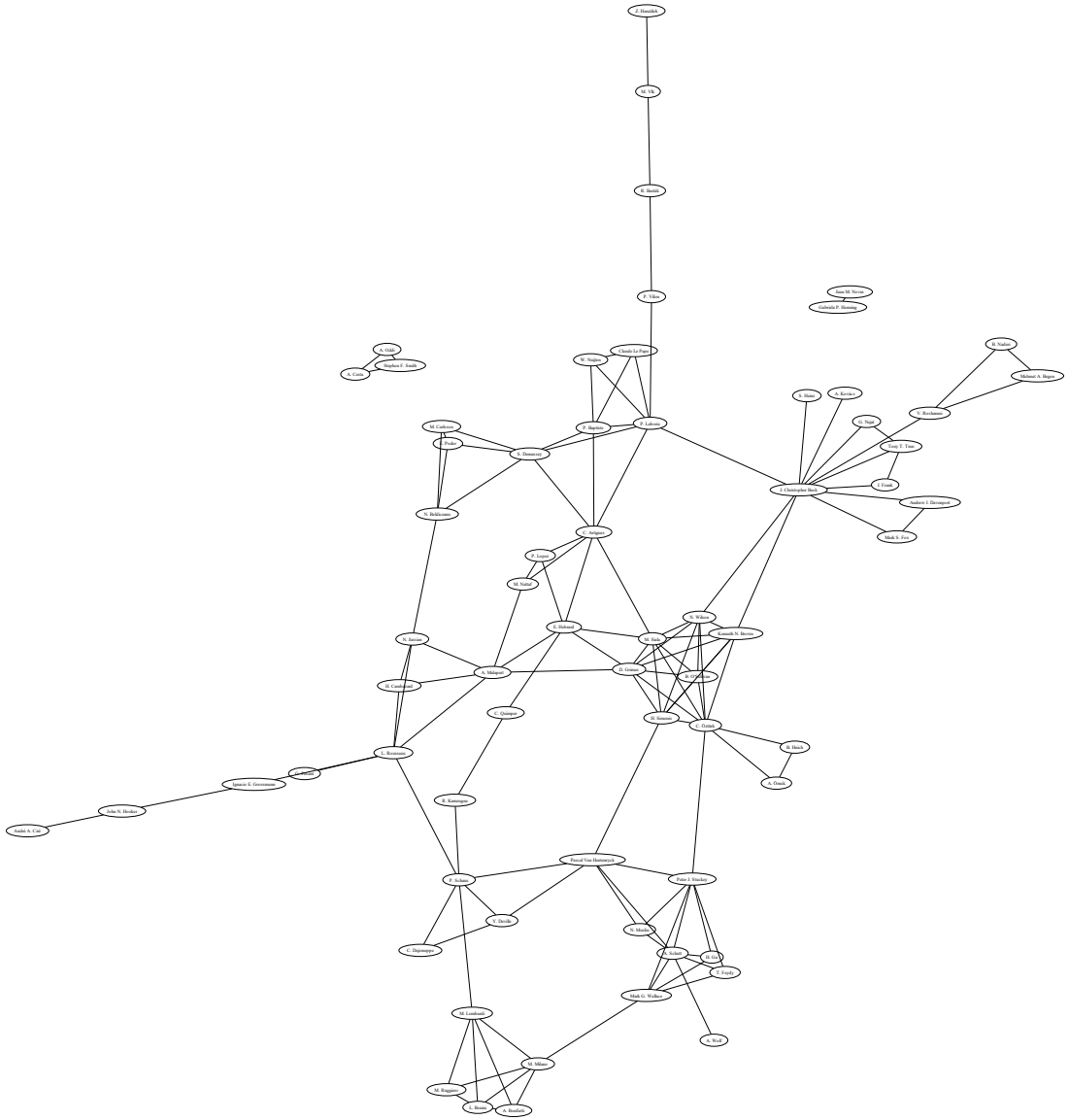

Feature Count for Type Algorithms with a total of 36 features
Nr Works
Nr of Extracted Features
0
20
40
60
80
100
120
140
160
180
0
1
2
3
4
5
6
7
8
9
10
11
12
14
15
172
159
132
98
86
44
45
23
12
6
3
6
1
2
2

13 Coauthor graph

The coauthor plot is created by graphviz, and is based on the coauthor relations extracted from the author fields of the works. Authors with few works are not shown, to avoid a cluttered view. Note that this analysis depends on the use of canonical forms of author names. If bib entries come from any different sources, we will need to check this manually. DBLP seems to be using ORCID values and typically identifies the authors of a work with a canonical representation of their name. Accents and umlauts are other sources of having multiple forms of the name of the same author. Note that the risk of two different authors using the same name should be low for very specific literature surveys, but cannot be checked with the data sources currently used.

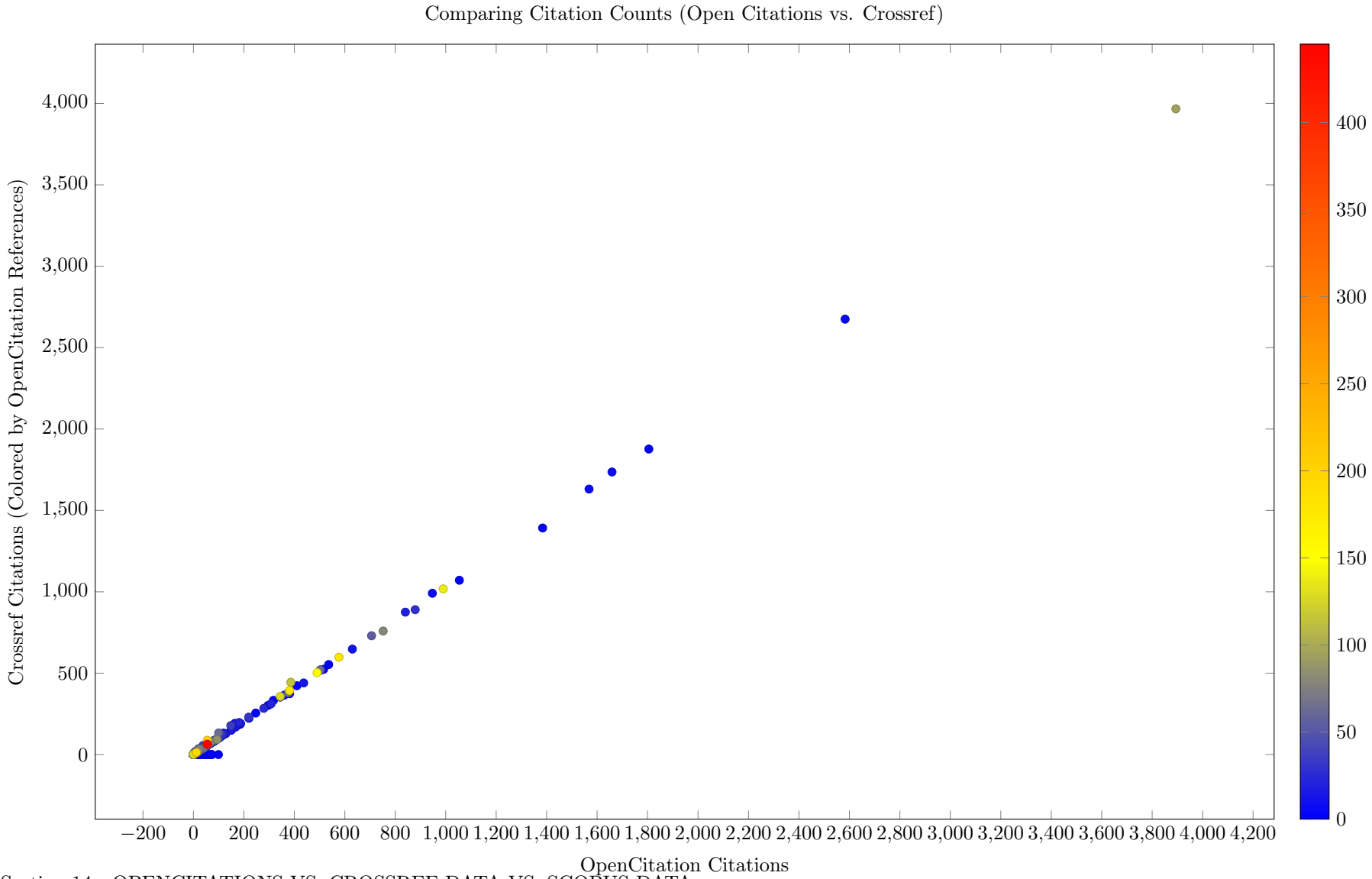
The plots can be made with different layout tools in graphviz, it seems that fdp produces the most consistent visually attractive plots for this type of display. This probably needs more work on parameter settings to be fully automated.

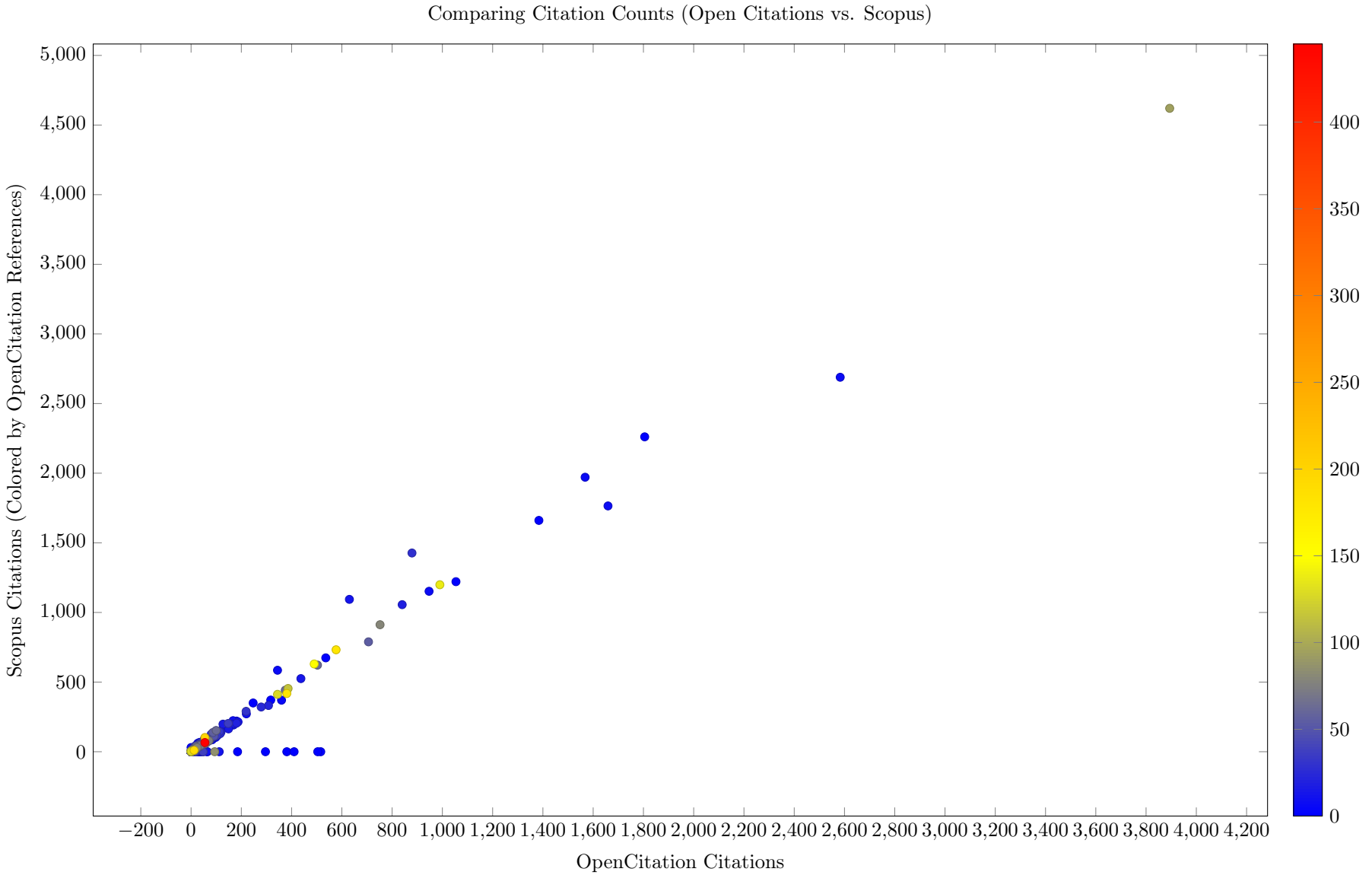
Figure 1: Coauthor Graph Drawn with fdp (Graphviz)

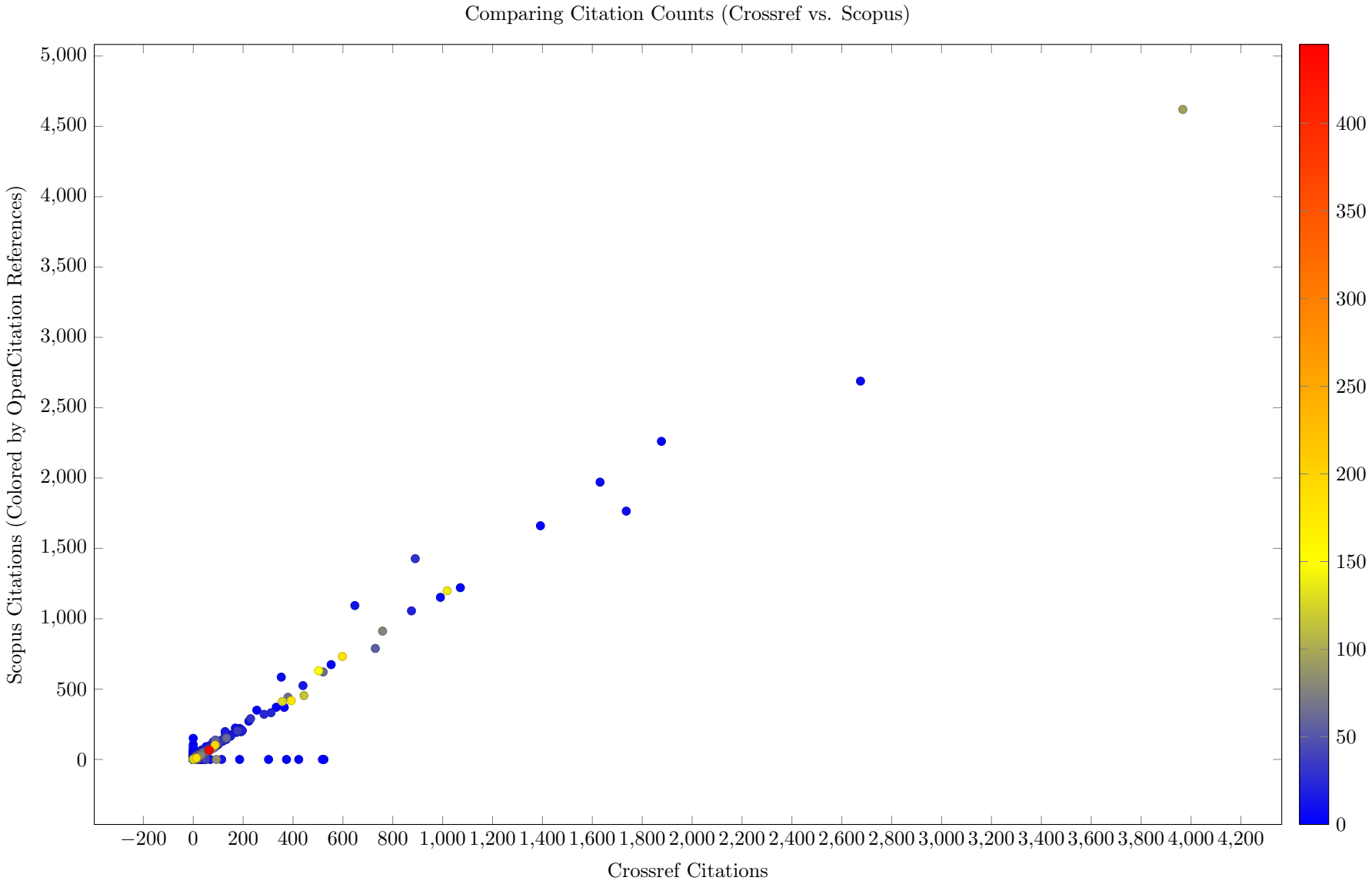


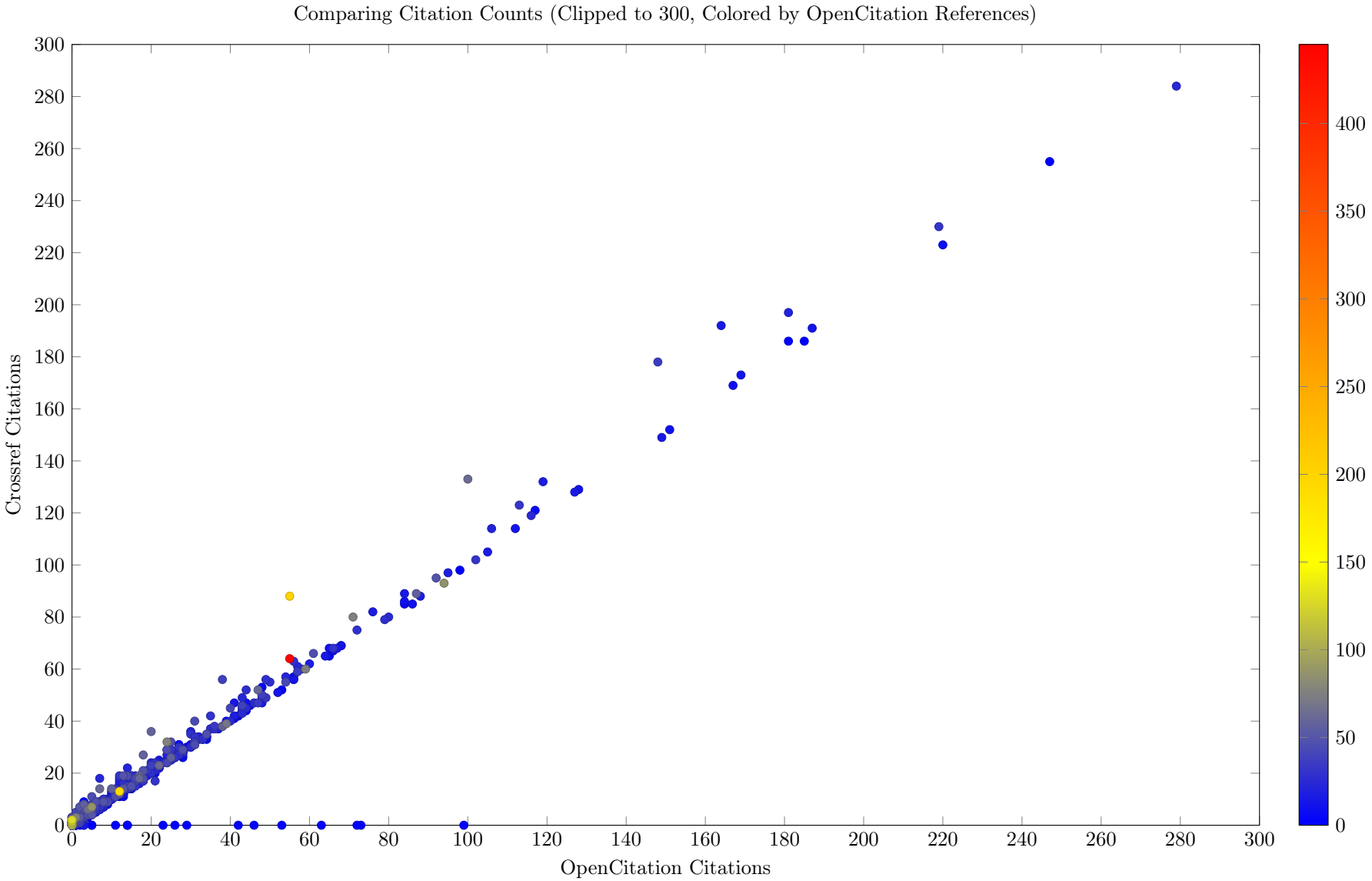
14 OpenCitations vs. Crossref Data vs. Scopus Data

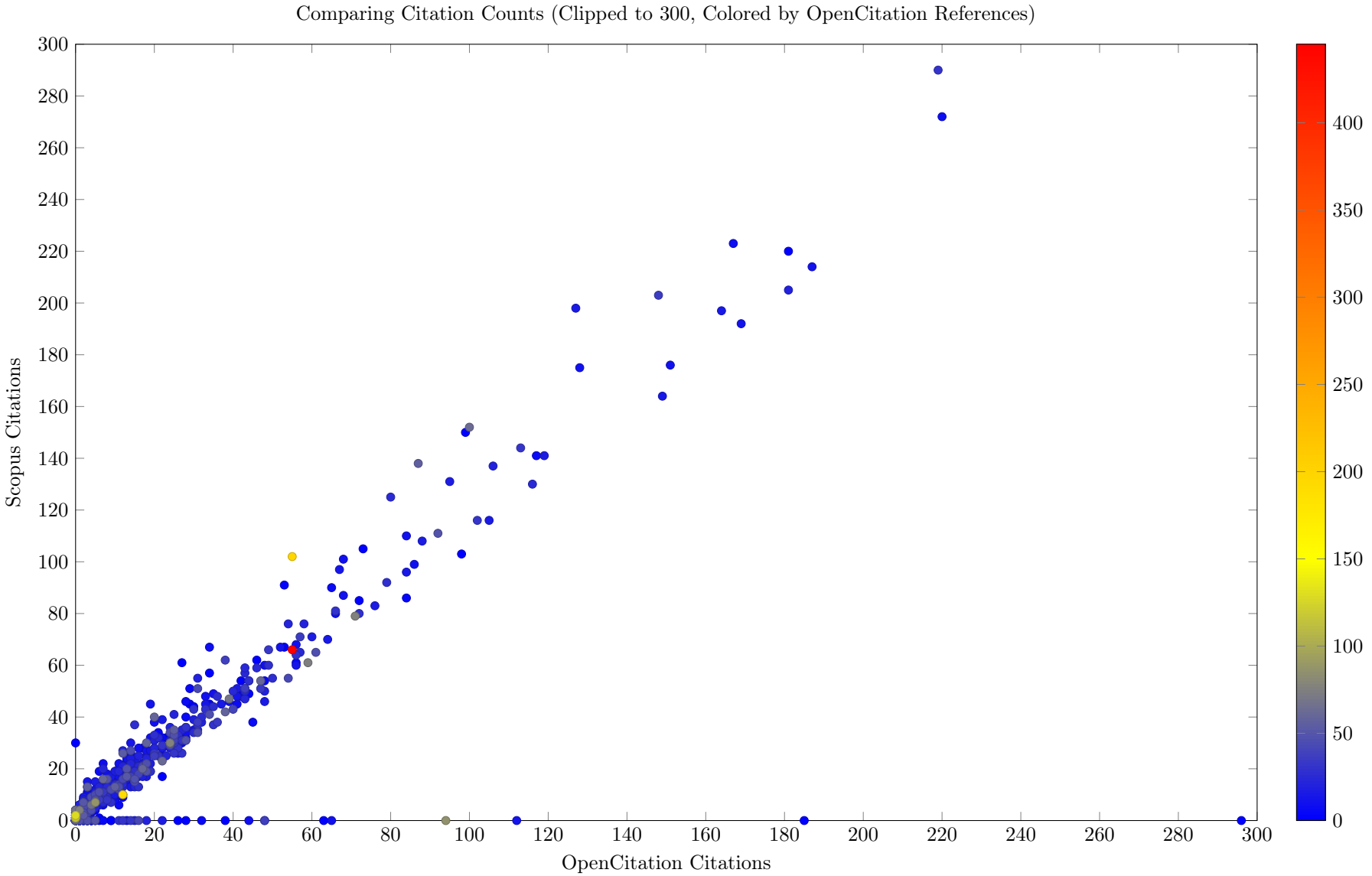
14.1 Citation Comparison

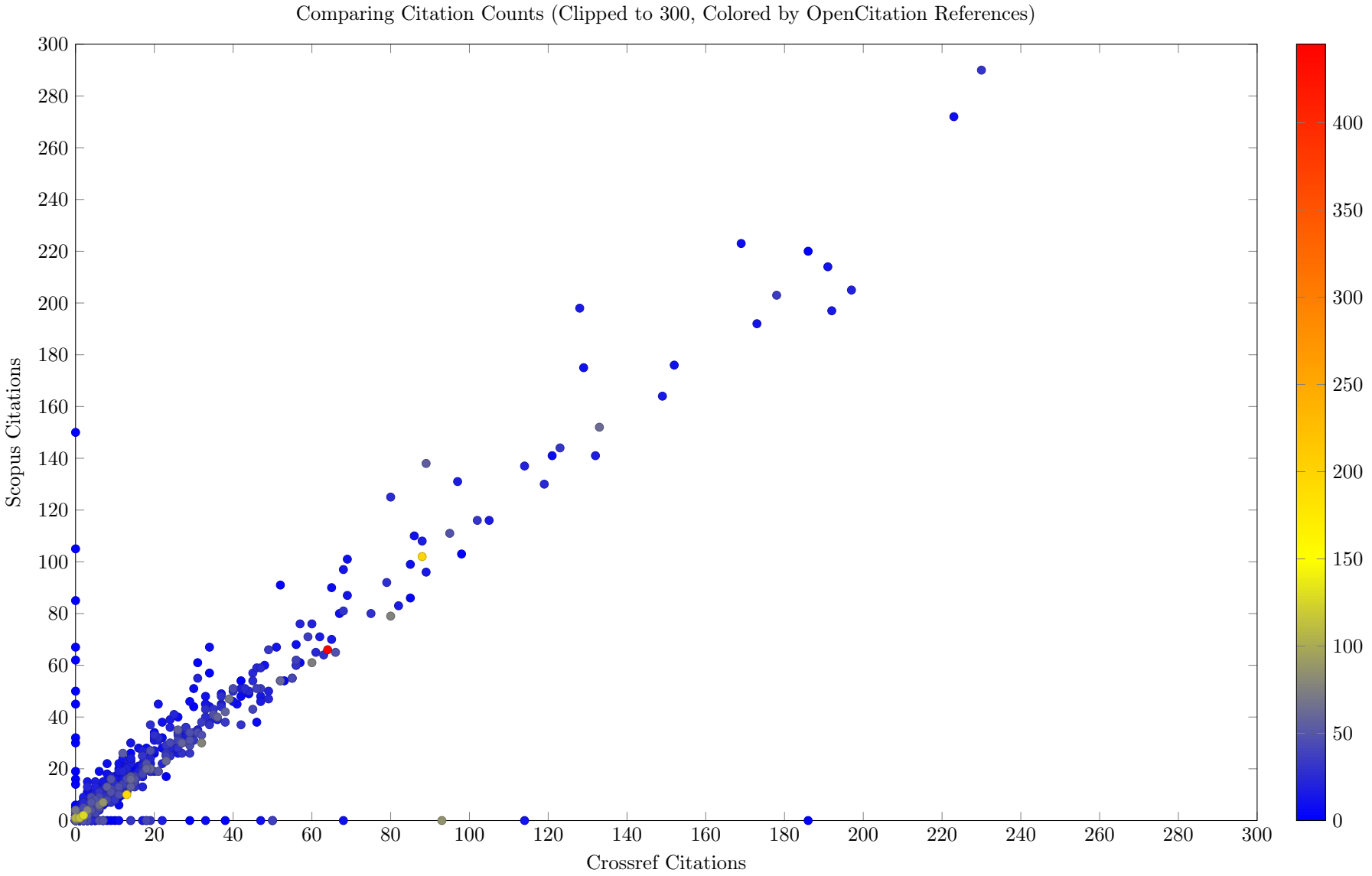



Comparing Citation Counts (Open Citations vs. Scopus)
Scopus Citations (Colored by OpenCitation References)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
−200 0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000 3,200 3,400 3,600 3,800 4,000 4,200
OpenCitation Citations
400
350
300
250
200
150
100
50
0

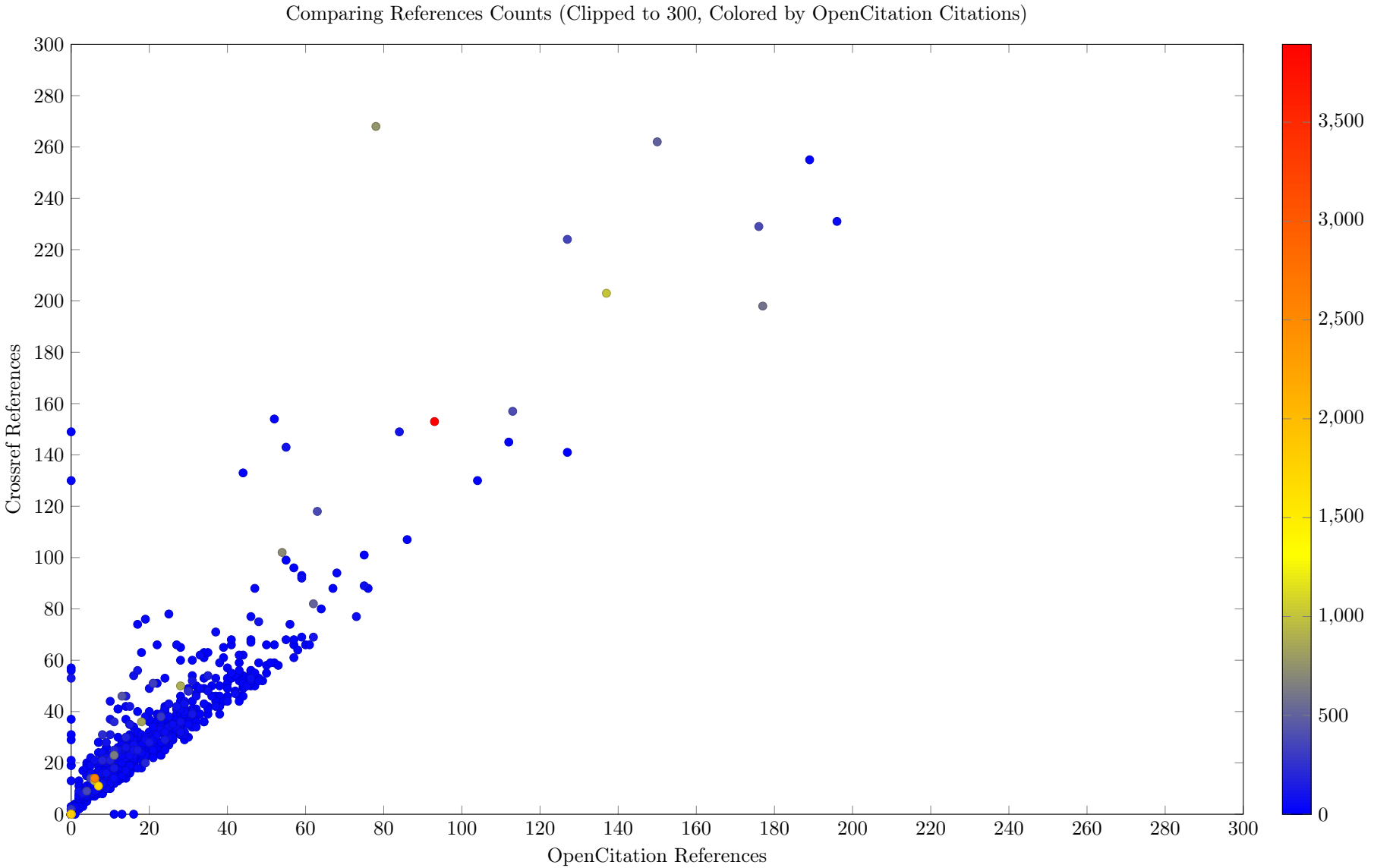

Comparing Citation Counts (Crossref vs. Scopus)
Scopus Citations (Colored by OpenCitation References)
5,000
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
−200 0 200 400 600 800 1,000 1,200 1,400 1,600 1,800 2,000 2,200 2,400 2,600 2,800 3,000 3,200 3,400 3,600 3,800 4,000 4,200
Crossref Citations
400
350
300
250
200
150
100
50
0


Comparing Citation Counts (Clipped to 300, Colored by OpenCitation References)
Crossref Citations
OpenCitation Citations
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
0
50
100
150
200
250
300
350
400

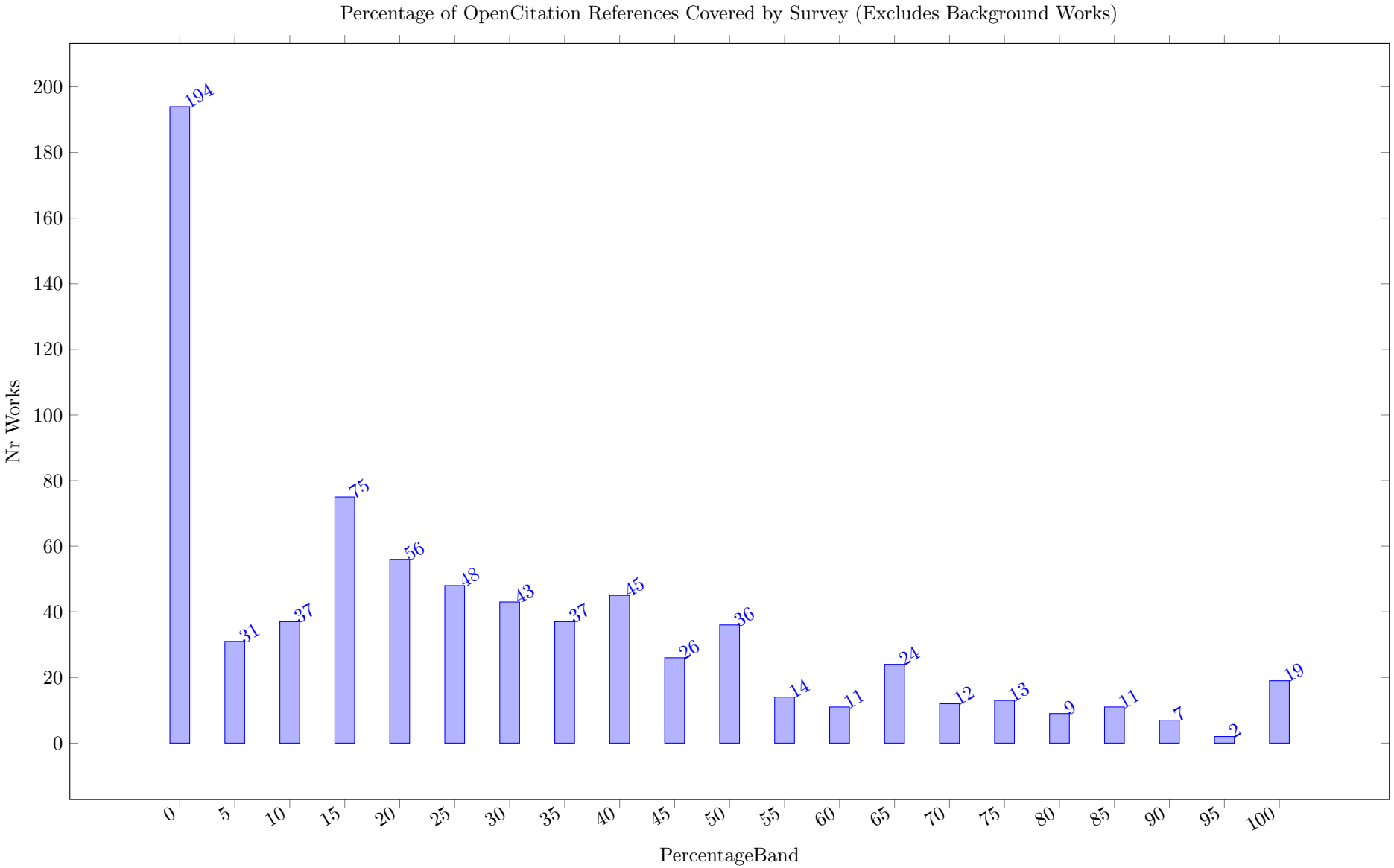

Comparing Citation Counts (Clipped to 300, Colored by OpenCitation References)
Scopus Citations
OpenCitation Citations
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
0
50
100
150
200
250
300
350
400

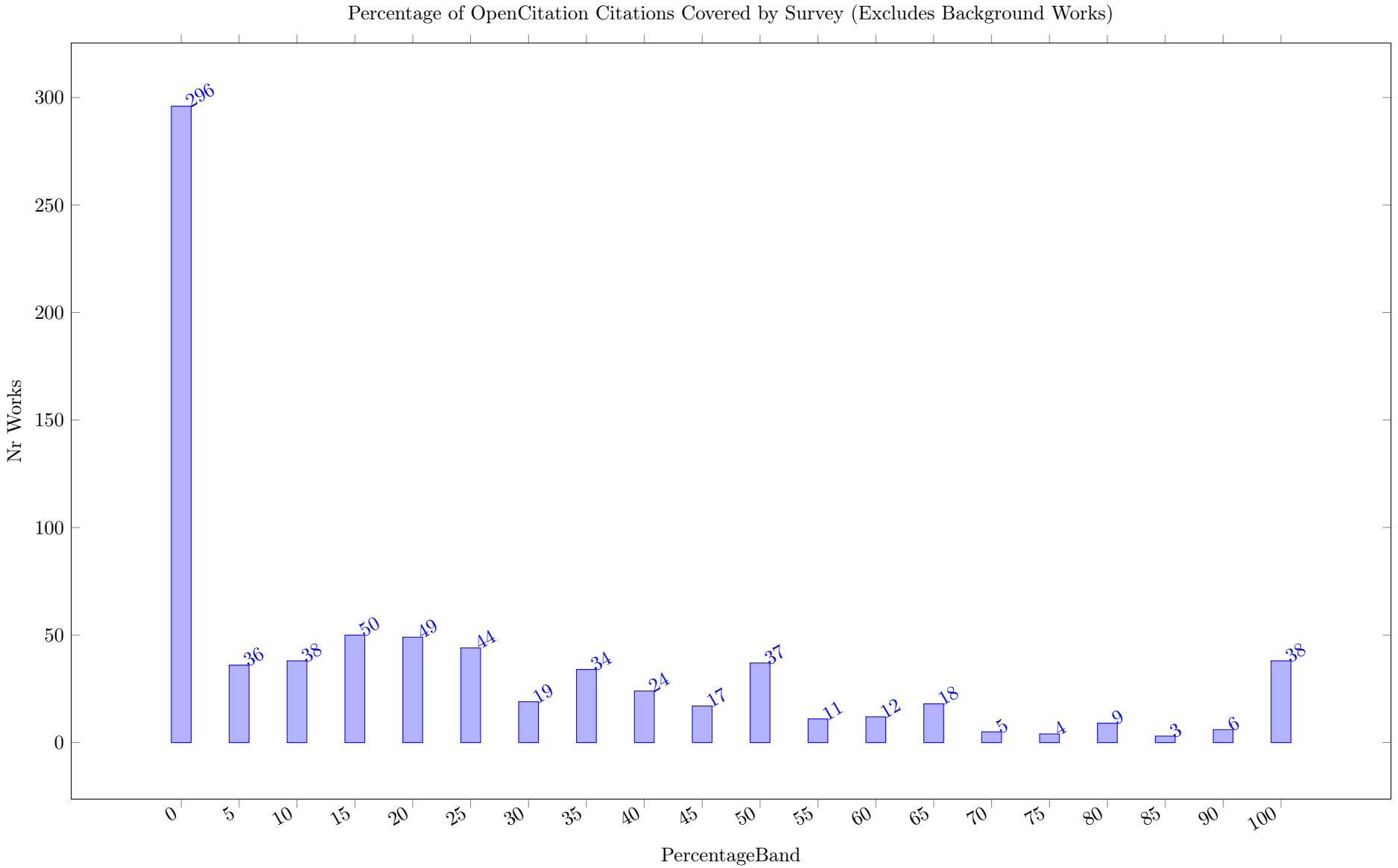

Comparing Citation Counts (Clipped to 300, Colored by OpenCitation References)
Scopus Citations
Crossref Citations
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
0
50
100
150
200
250
300
350
400

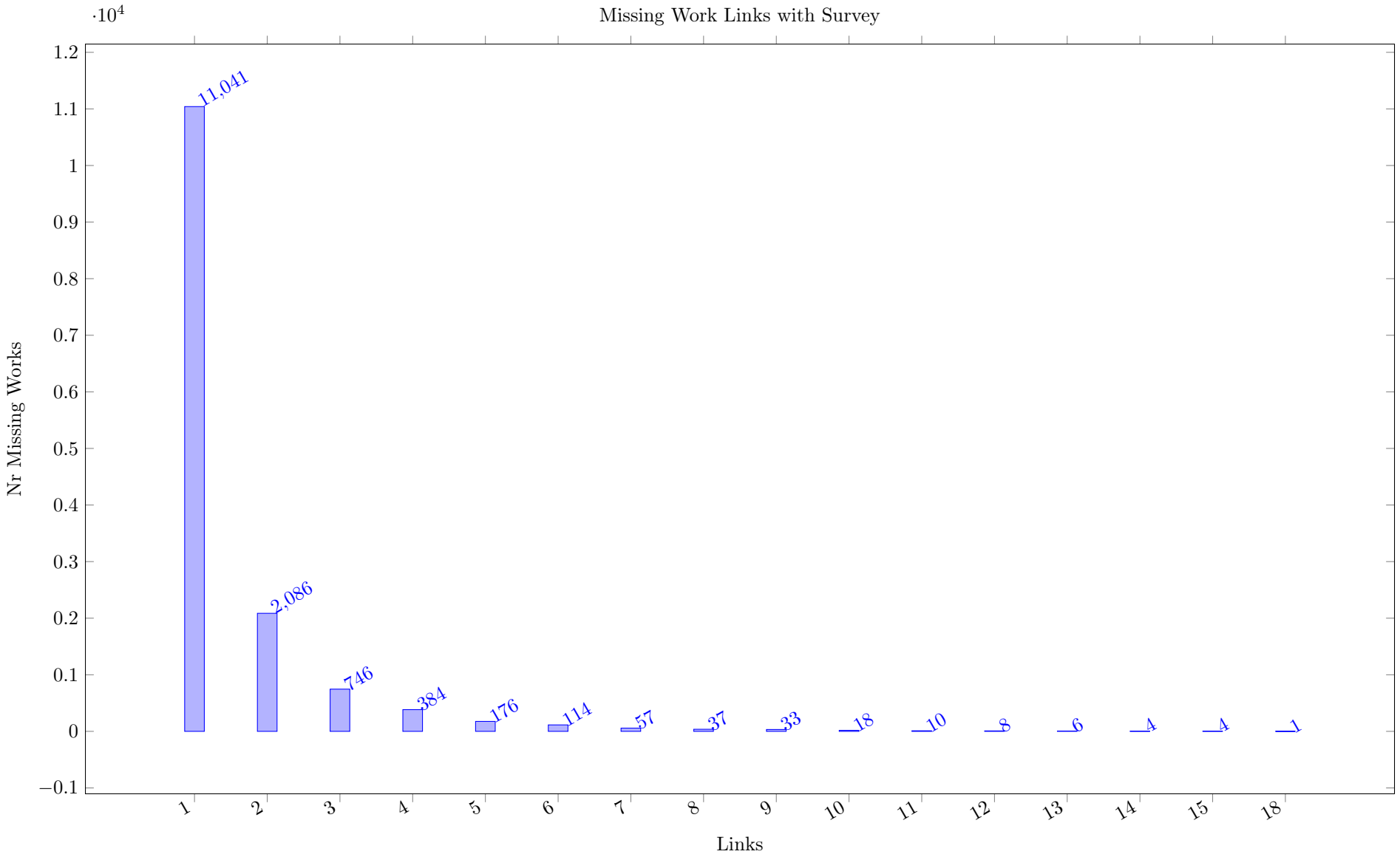
14.2 References Comparison



14.3 Percentage Cover




Percentage of OpenCitation Citations Covered by Survey (Excludes Background Works)
Nr Works
PercentageBand
0
50
100
150
200
250
300
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
100
296
36
38
50
49
44
19
34
24
17
37
11
12
18
5
4
9
3
6
38


Missing Work Links with Survey
$\cdot 10^4$
Nr Missing Works
Links
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
−0.1
11,041
2,086
746
384
176
114
57
37
33
18
10
8
6
4
4
1
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
18

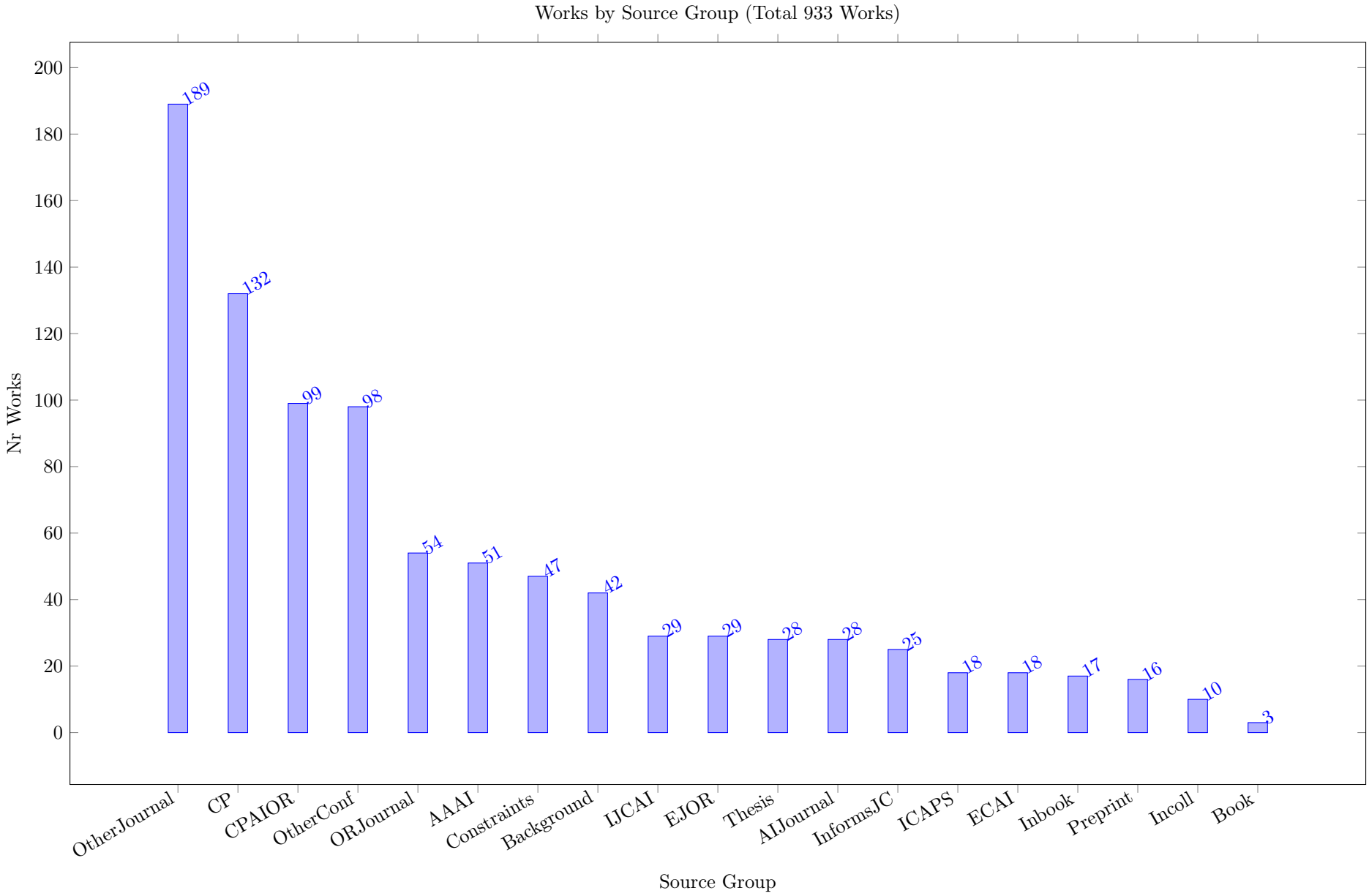
15 Citations by Year and Source Group

We have defined a number of source groups to group publications of a given type together, without using the full conference series and journal distinctions for grouping. The following table lists all defined source groups for this survey. Adding groups requires updates to the source code.

Table 11: Source Groups

Name	Description
Background	Background material
CP	The CP conference (from 1995)
CPAIOR	The CPAIOR conference (starting 2004)
ICAPS	The ICAPS conference
AAAI	AAAI conference
IJCAI	IJCAI Conference
ECAI	ECAI Conference
OtherConf	Any other conference
Constraints	The Constraint Journal
EJOR	The European Journal on Operations Research
InformsJC	The Informs Journal on Computing
AIJournal	Other AI Journals
ORJournal	Other OR Journals
Preprint	A non reviewed preprint
OtherJournal	Any other Journal
Book	A book
Inbook	Chapter in a Book
Incoll	Chapter in a Collection
Thesis	A thesis
Other	Any other published work

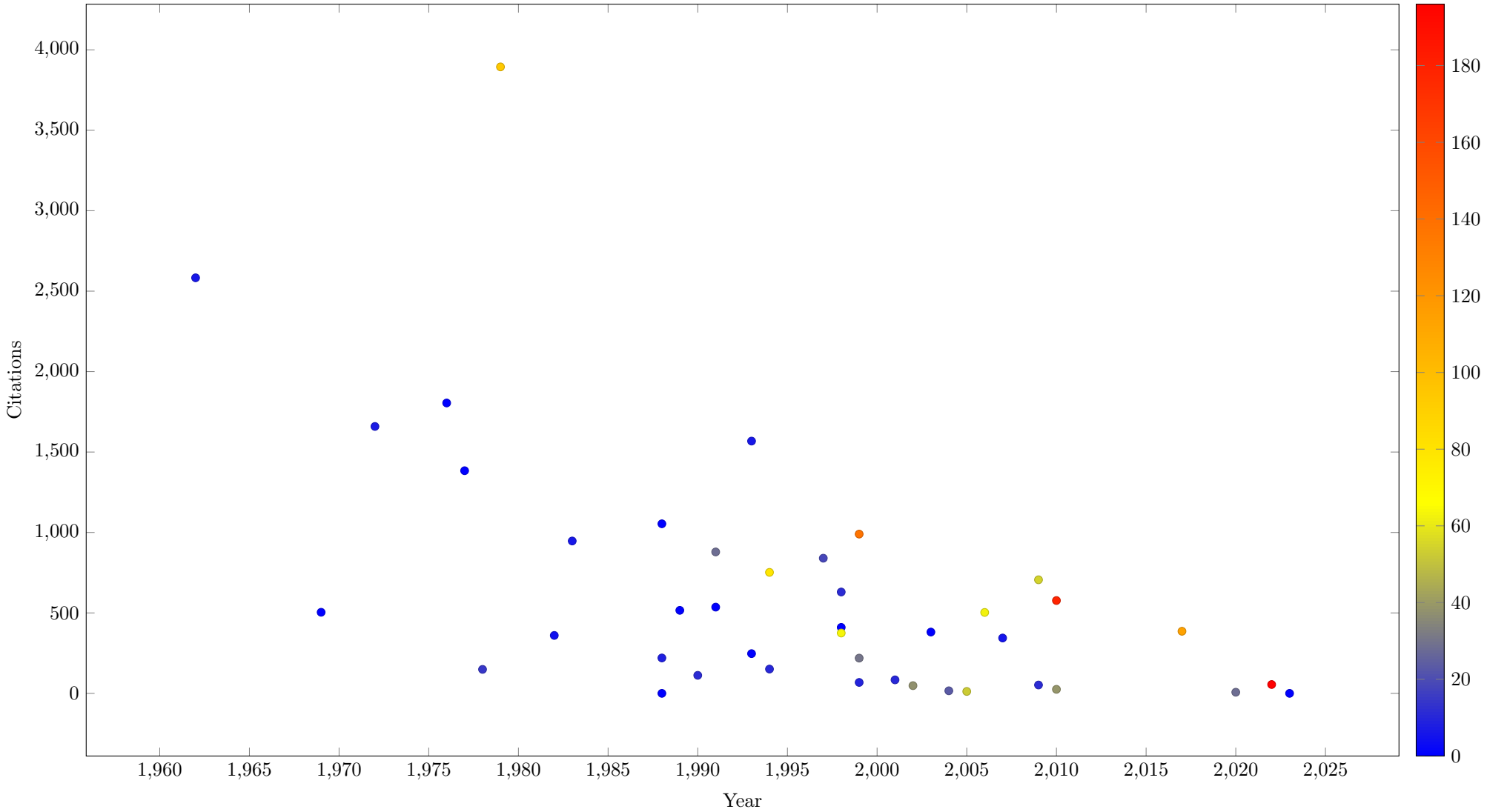
The first plot in this section shows how many works in each source group have been published. This considers the complete time period of the survey.

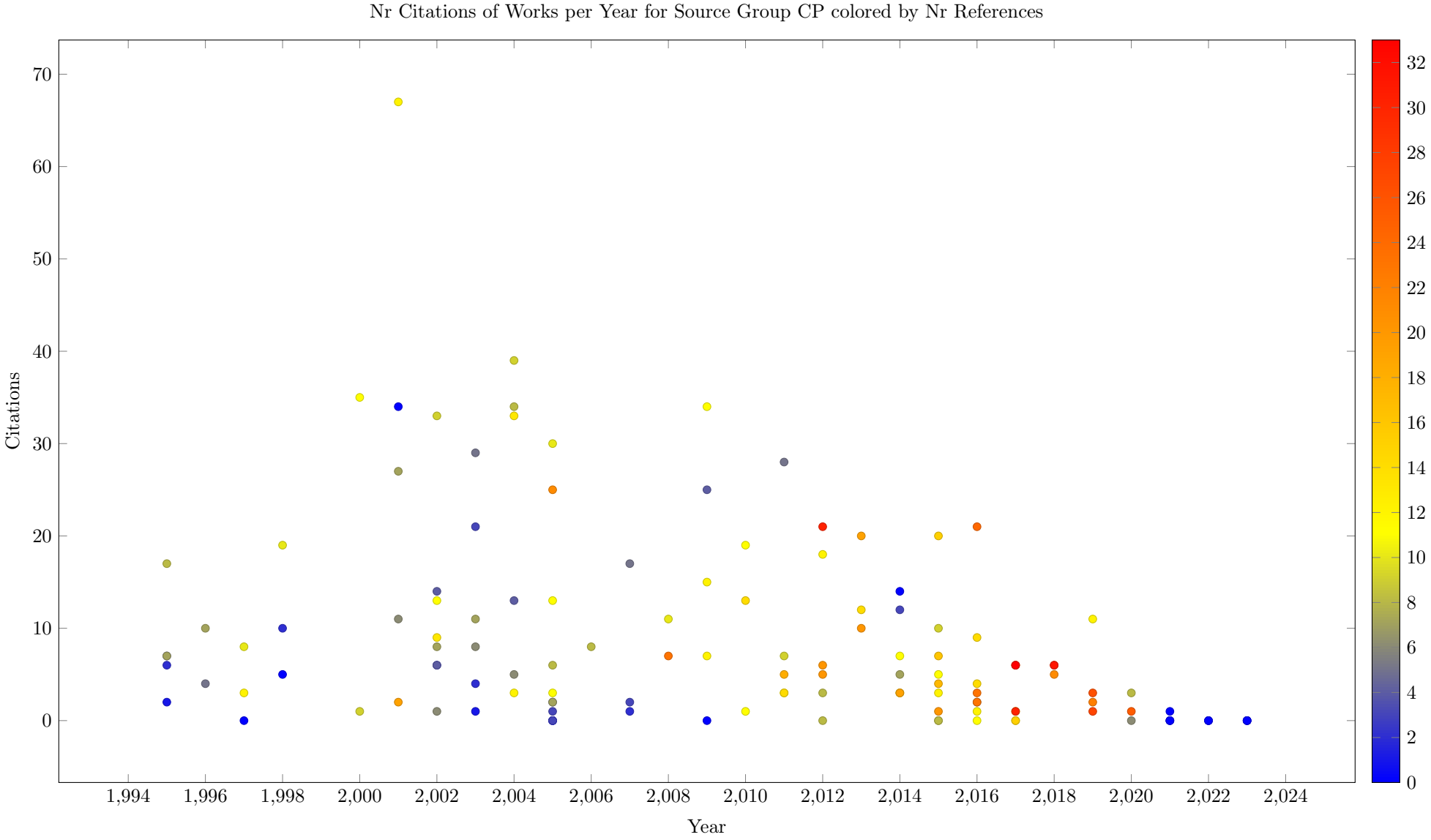

Works by Source Group (Total 933 Works)
Nr Works
0
20
40
60
80
100
120
140
160
180
200
189
132
99
98
54
51
47
42
29
29
28
28
25
18
18
17
16
10
3
OtherJournal
CP
CPAIOR
OtherConf
ORJournal
AAAI
Constraints
Background
IJCAI
EJOR
Thesis
AIJournal
InformsJC
ICAPS
ECAI
Inbook
Preprint
Incoll
Book
Source Group

15.1 Source Group Citations by Year

We plot for each source group the number of citations obtained by papers published in a given year. This plot gives both an indication in which period the source group was active, and how significant the works in the source are. It is of course natural that more recent papers have fewer citations than papers published many tears ago.

Nr Citations of Works per Year for Source Group Background colored by Nr References




Nr Citations of Works per Year for Source Group CP colored by Nr References
Citations
0
10
20
30
40
50
60
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1,998
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2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020
2,022
2,024
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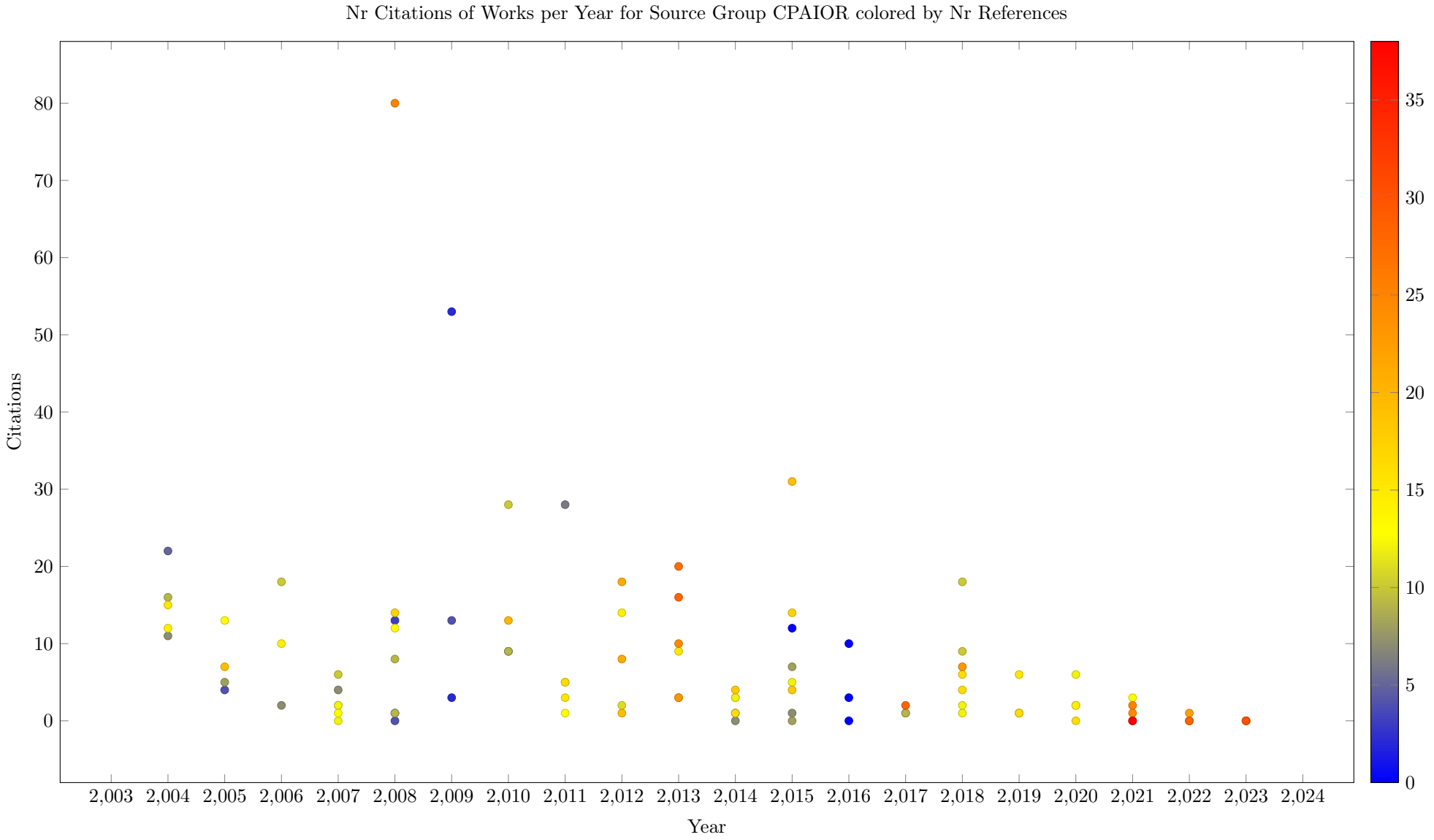
32


Nr Citations of Works per Year for Source Group CPAIOR colored by Nr References
Citations
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40
50
60
70
80
Year
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2,013
2,014
2,015
2,016
2,017
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20
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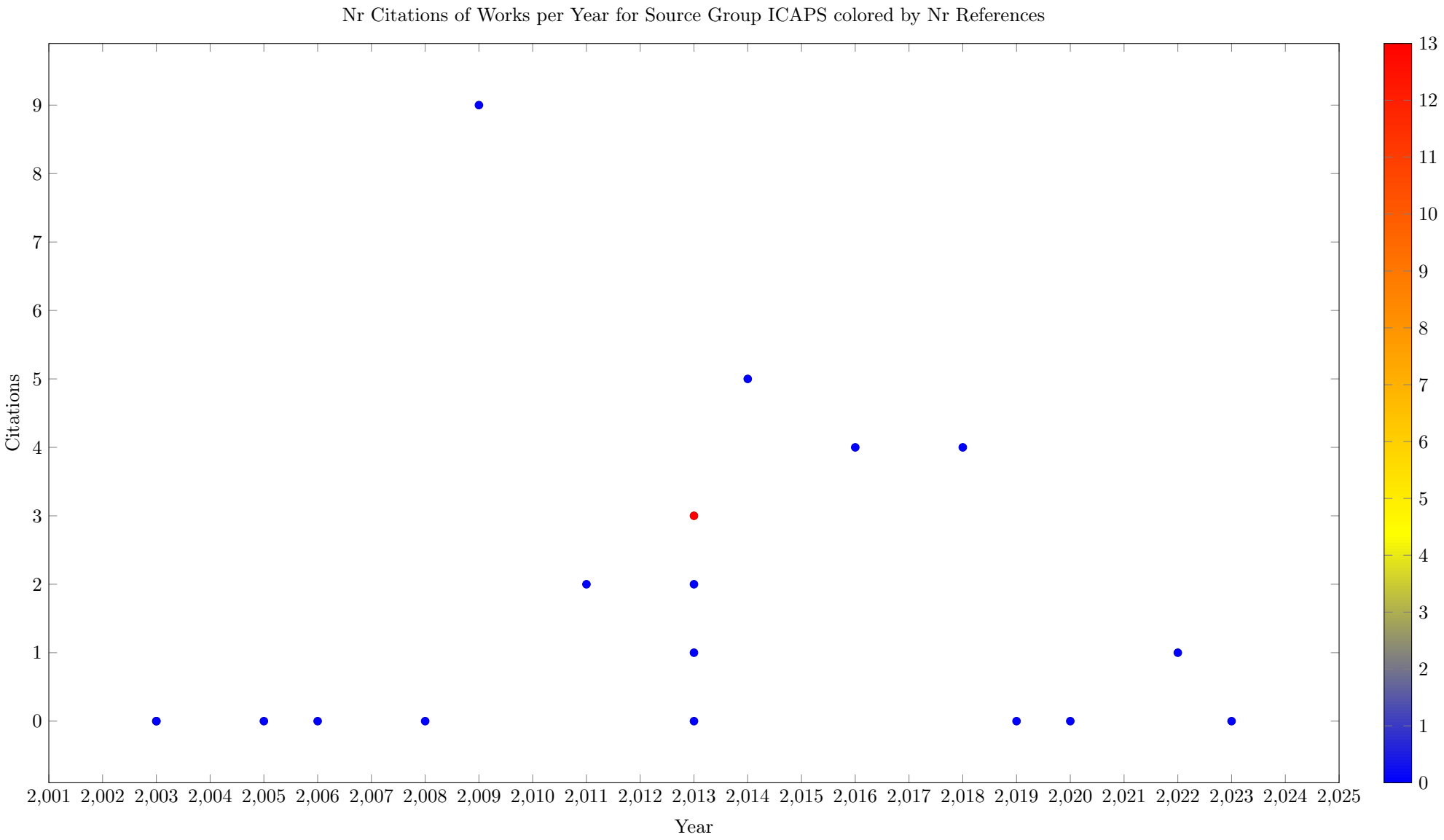
Nr Citations of Works per Year for Source Group ICAPS colored by Nr References
Citations
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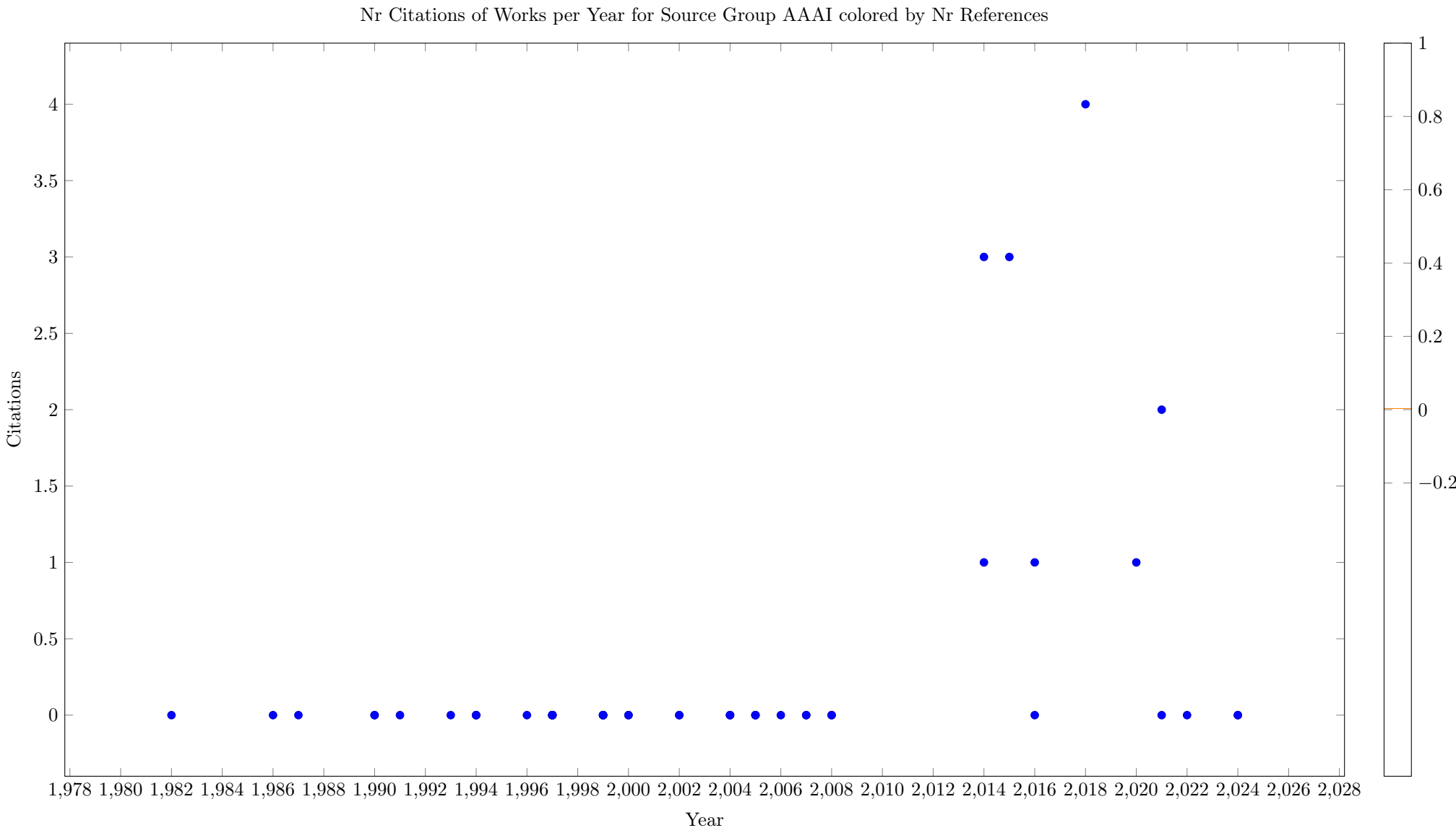
1
2
3
4
5
6
7
8
9
Year
2,001 2,002 2,003 2,004 2,005 2,006 2,007 2,008 2,009 2,010 2,011 2,012 2,013 2,014 2,015 2,016 2,017 2,018 2,019 2,020 2,021 2,022 2,023 2,024 2,025
0 1 2 3 4 5 6 7 8 9 10 11 12 13


Nr Citations of Works per Year for Source Group AAAI colored by Nr References
Citations
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1
1.5
2
2.5
3
3.5
4
Year
1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
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0.6
0.4
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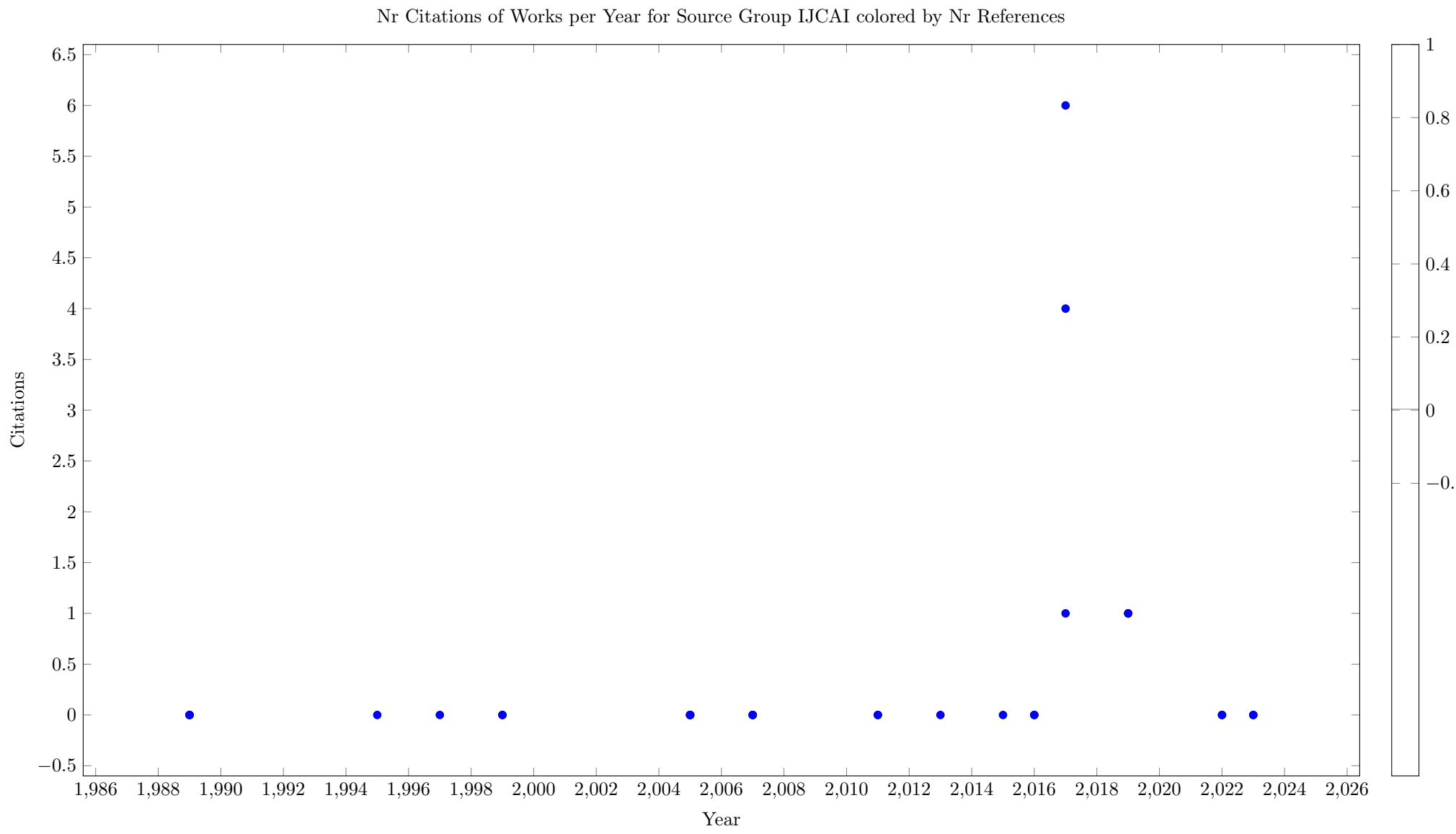
Nr Citations of Works per Year for Source Group IJCAI colored by Nr References
Citations
Year
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5.5
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3.5
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2.5
2
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−0.5
1,986
1,988
1,990
1,992
1,994
1,996
1,998
2,000
2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020
2,022
2,024
2,026
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0.6
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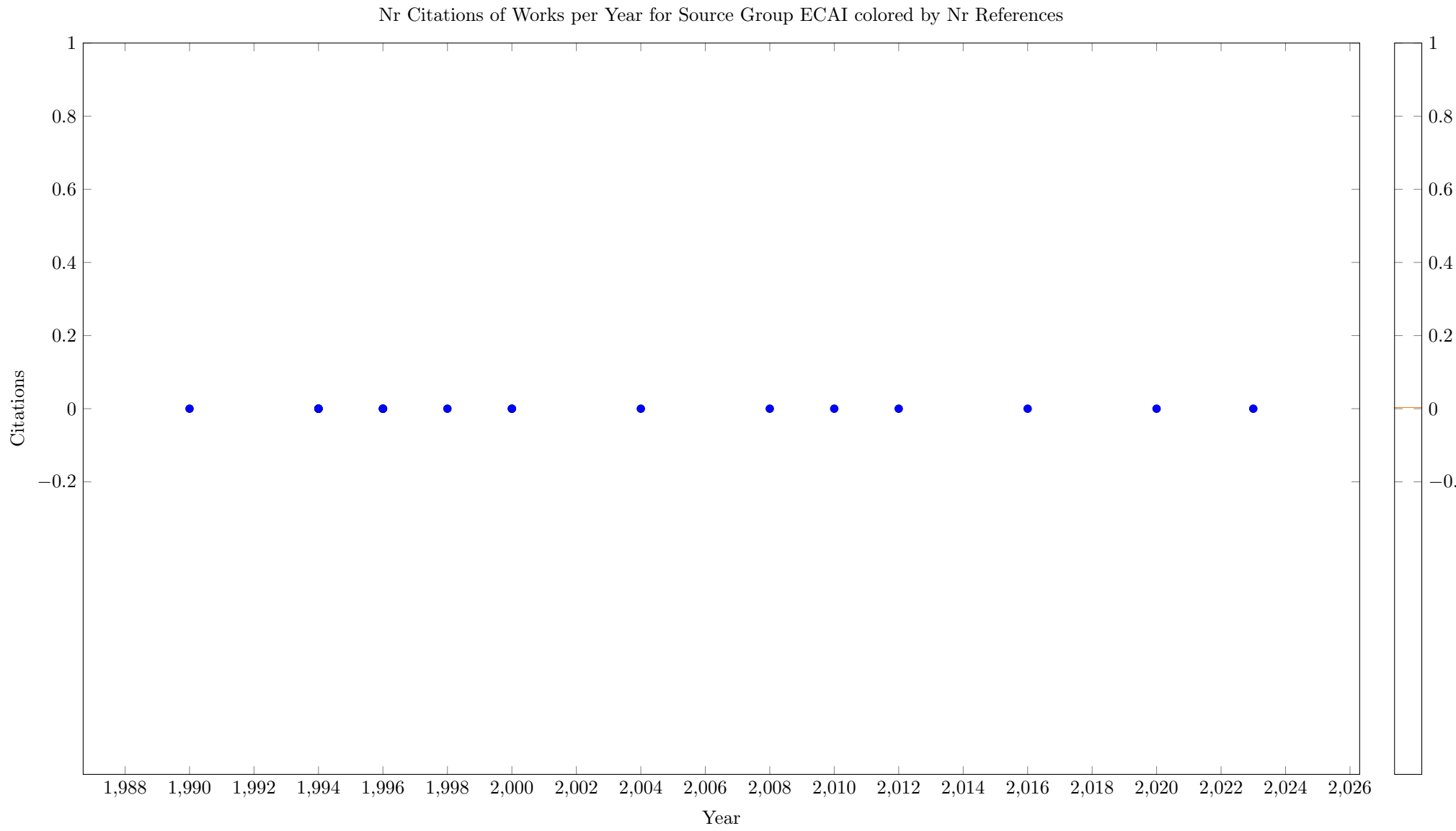
−0.


Nr Citations of Works per Year for Source Group ECAI colored by Nr References
Citations
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1,994
1,996
1,998
2,000
2,002
2,004
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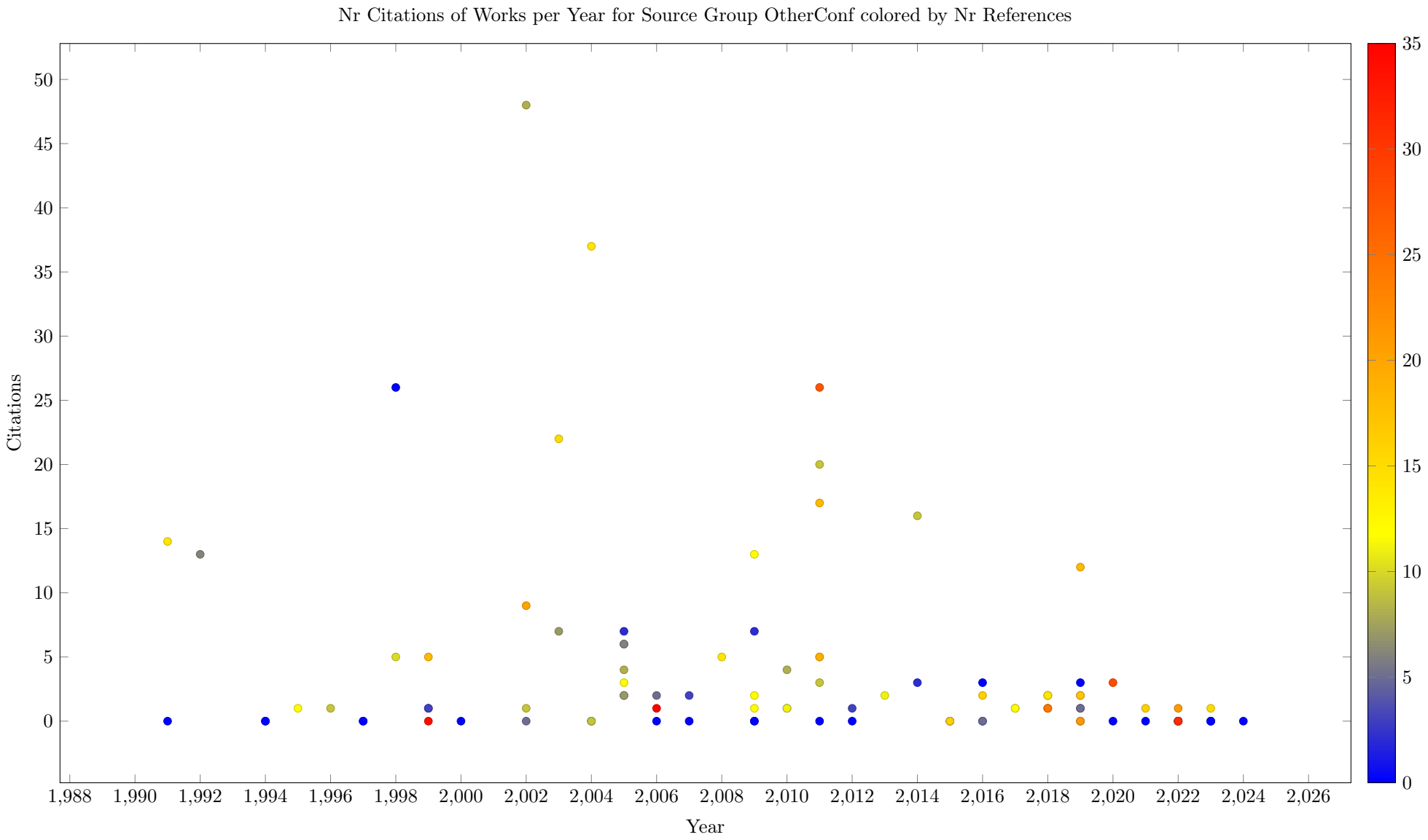
2,012
2,014
2,016
2,018
2,020
2,022
2,024
2,026
Year


Nr Citations of Works per Year for Source Group OtherConf colored by Nr References
Citations
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10
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30
35
40
45
50
Year
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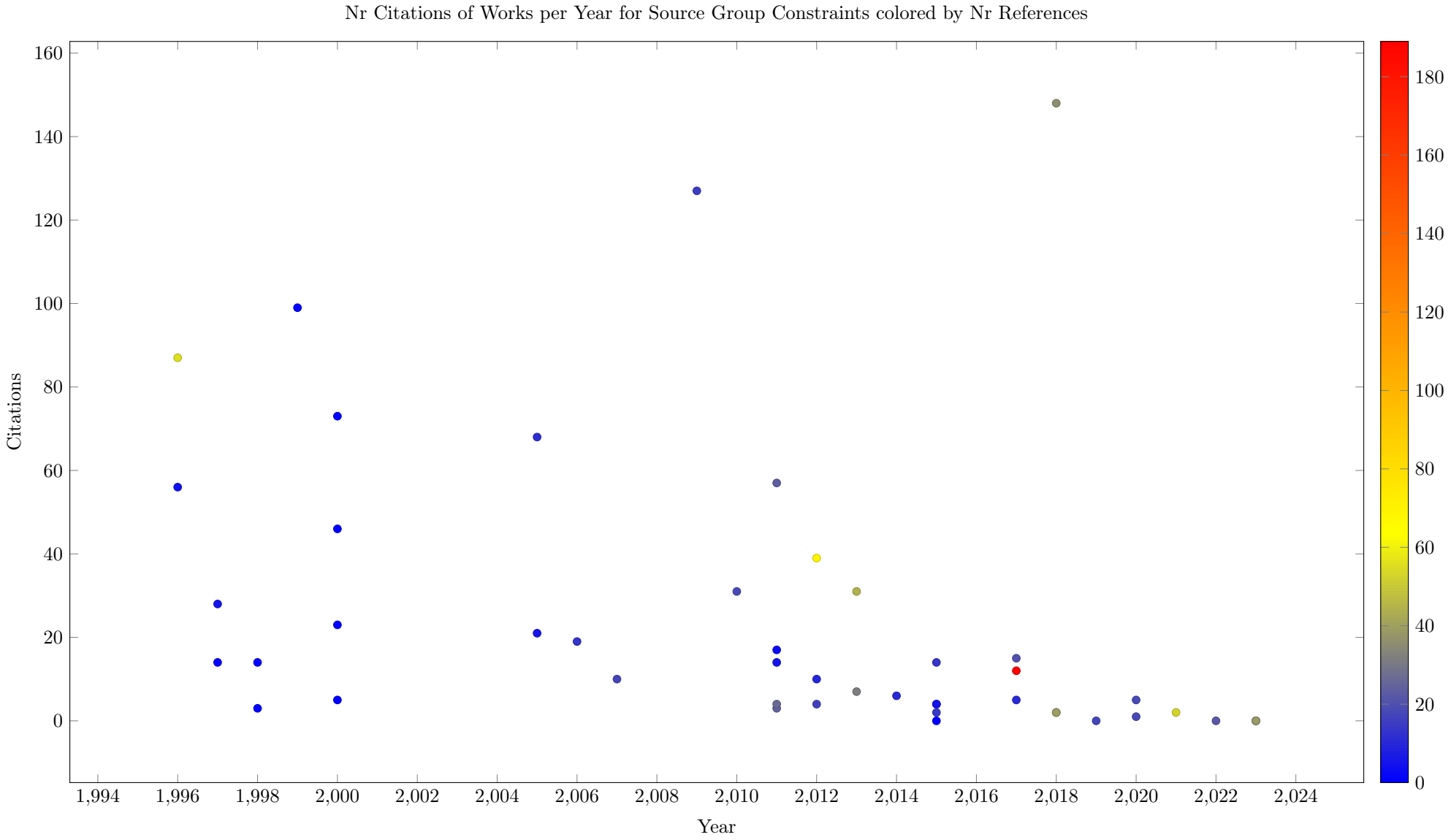
2,016
2,018
2,020
2,022
2,024
2,026


Nr Citations of Works per Year for Source Group Constraints colored by Nr References
Citations
Year
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40
60
80
100
120
140
160
180
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1,996
1,998
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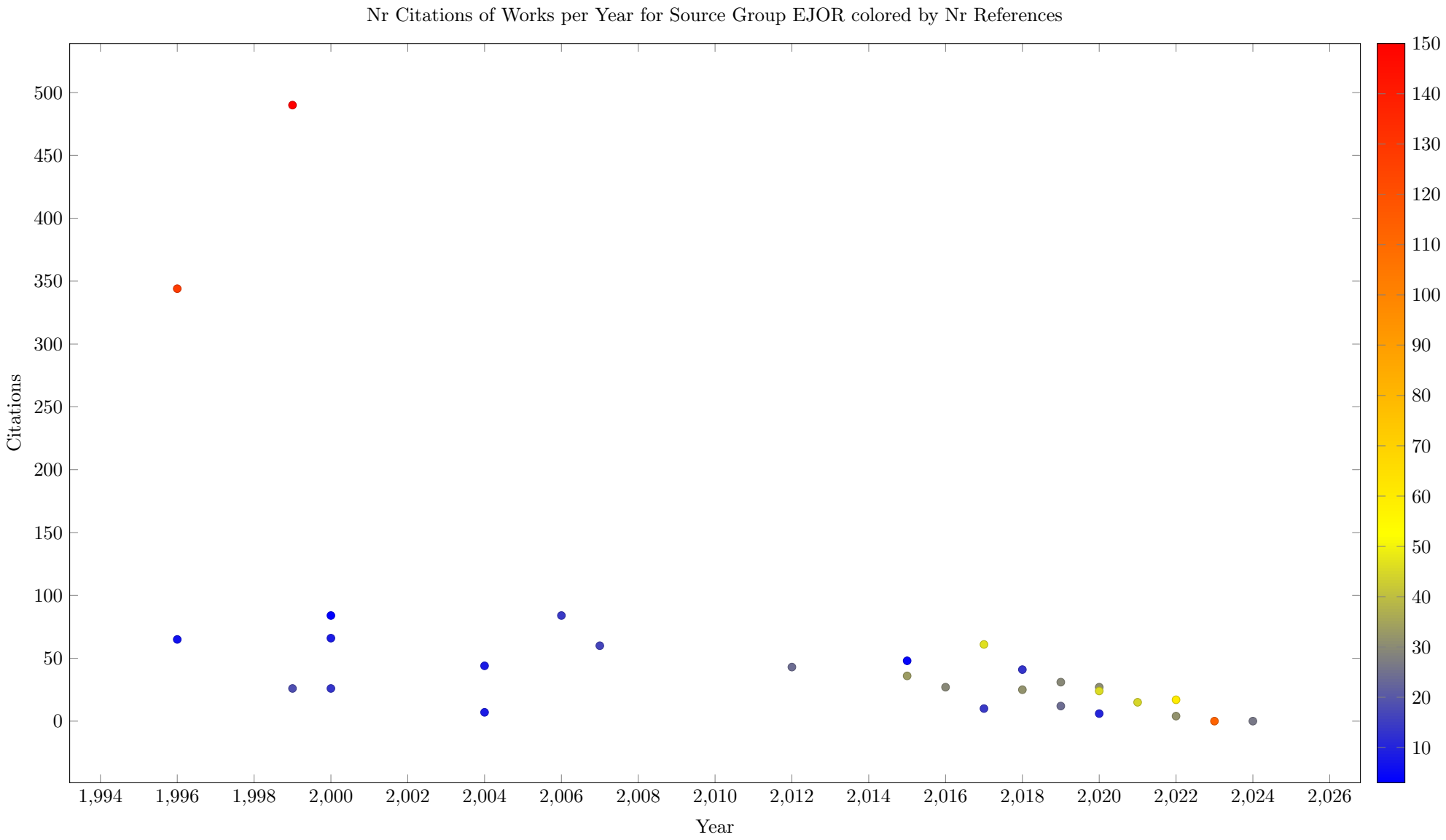
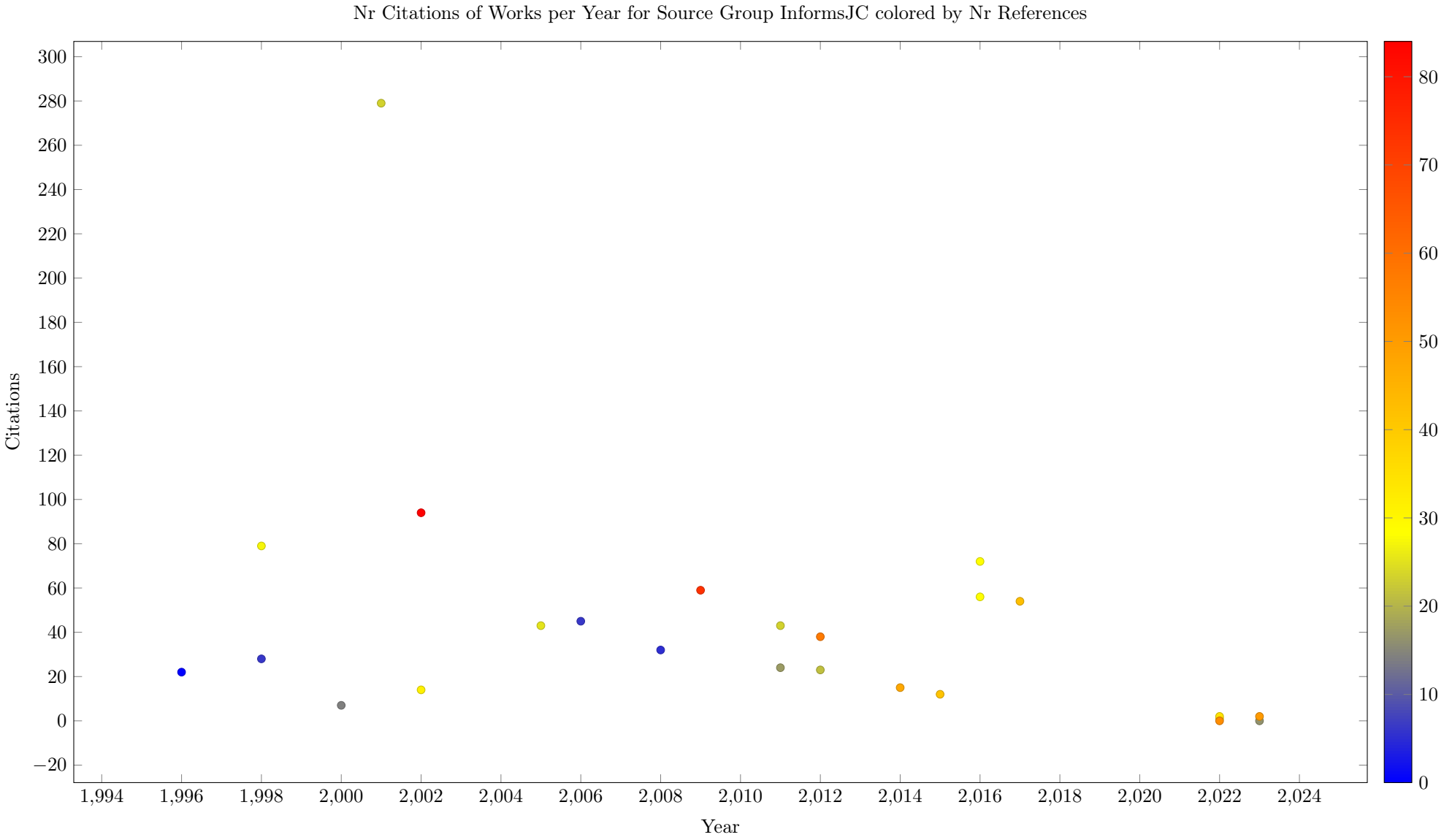
2,014
2,016
2,018
2,020
2,022
2,024


Nr Citations of Works per Year for Source Group EJOR colored by Nr References
Citations
0
50
100
150
200
250
300
350
400
450
500
Year
1,994
1,996
1,998
2,000
2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020
2,022
2,024
2,026
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150


Nr Citations of Works per Year for Source Group InformsJC colored by Nr References
Citations
300
280
260
240
220
200
180
160
140
120
100
80
60
40
20
0
−20
1,994
1,996
1,998
2,000
2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020
2,022
2,024
Year
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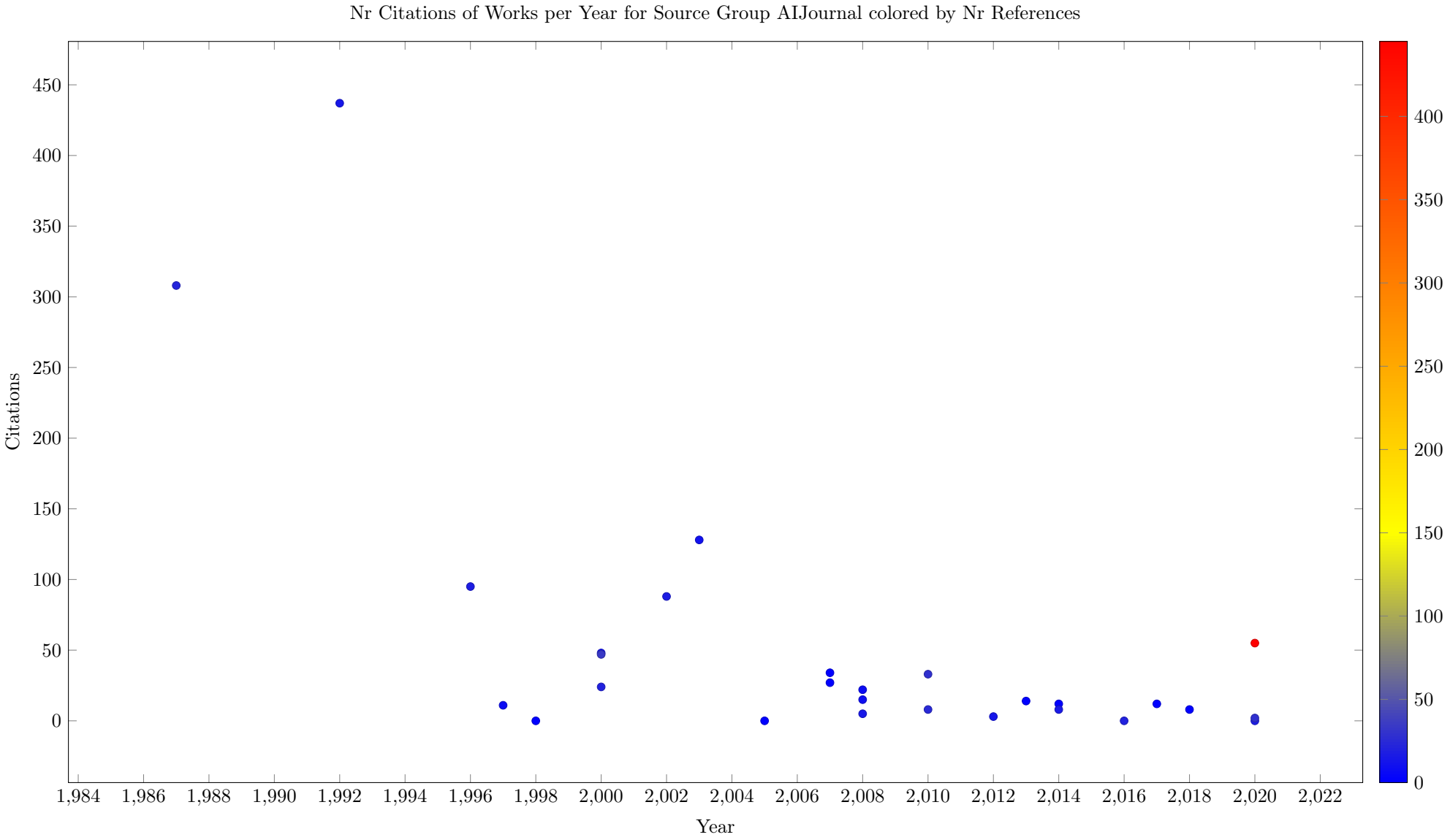
70
60
50
40
30
20
10
0


Nr Citations of Works per Year for Source Group AIJournal colored by Nr References
Citations
Year
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100
150
200
250
300
350
400
450
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1,986
1,988
1,990
1,992
1,994
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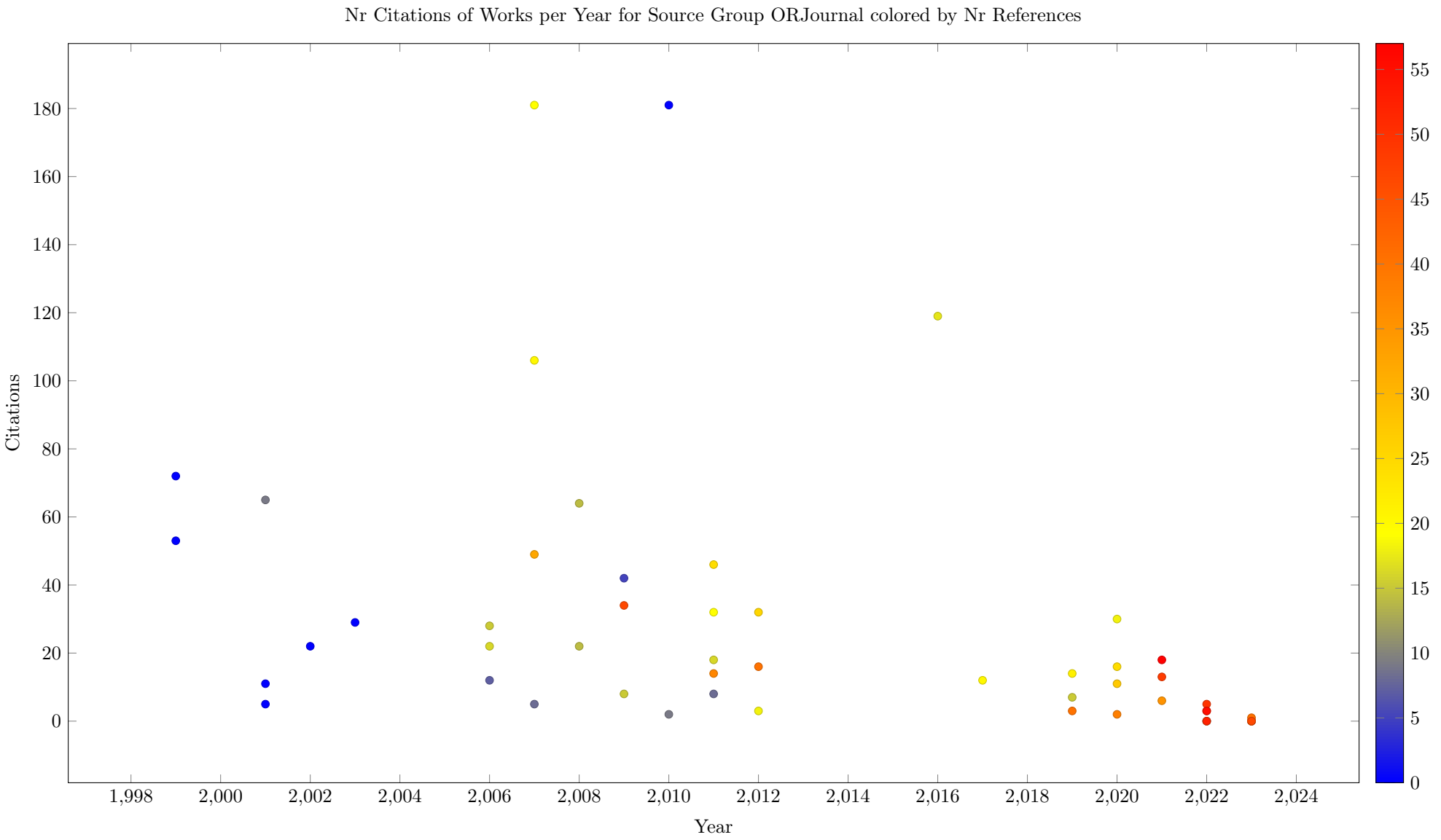
2,000
2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020
2,022
0
50
100
150
200
250
300
350
400


Nr Citations of Works per Year for Source Group ORJournal colored by Nr References
Citations
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60
80
100
120
140
160
180
Year
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2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
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2,022
2,024
0
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20
25
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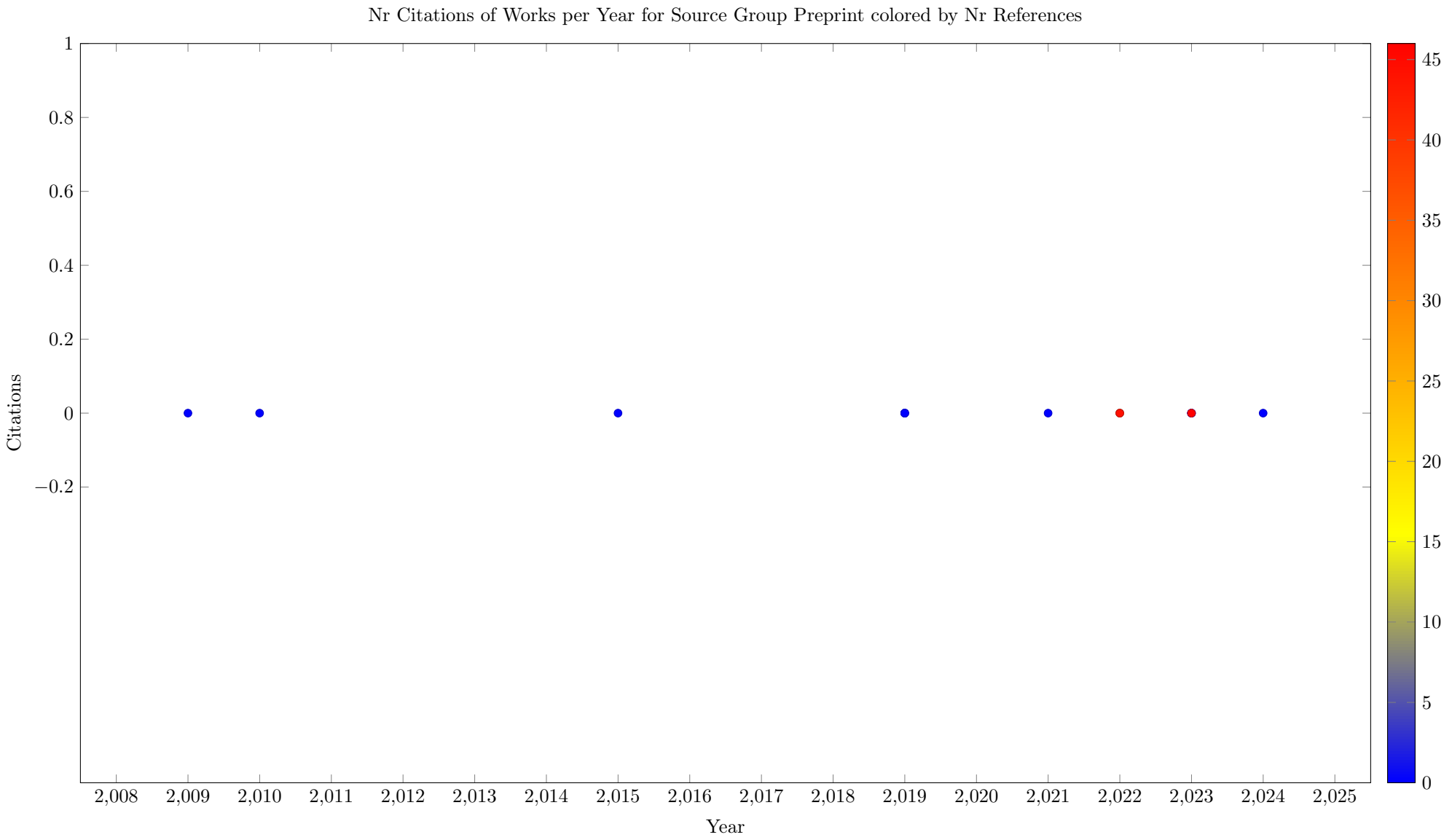
40
45
50
55


Nr Citations of Works per Year for Source Group Preprint colored by Nr References
Citations
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0.4
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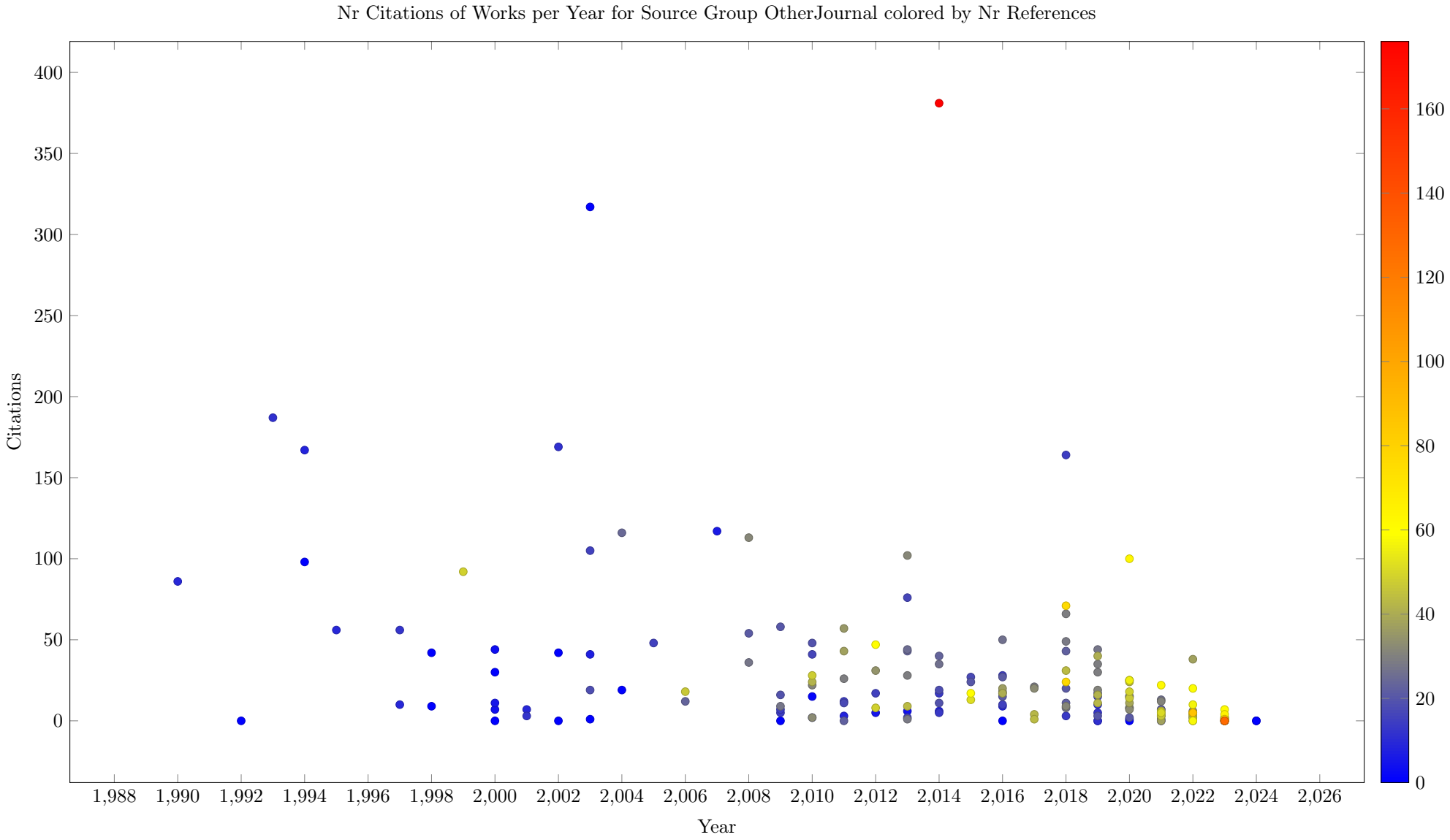
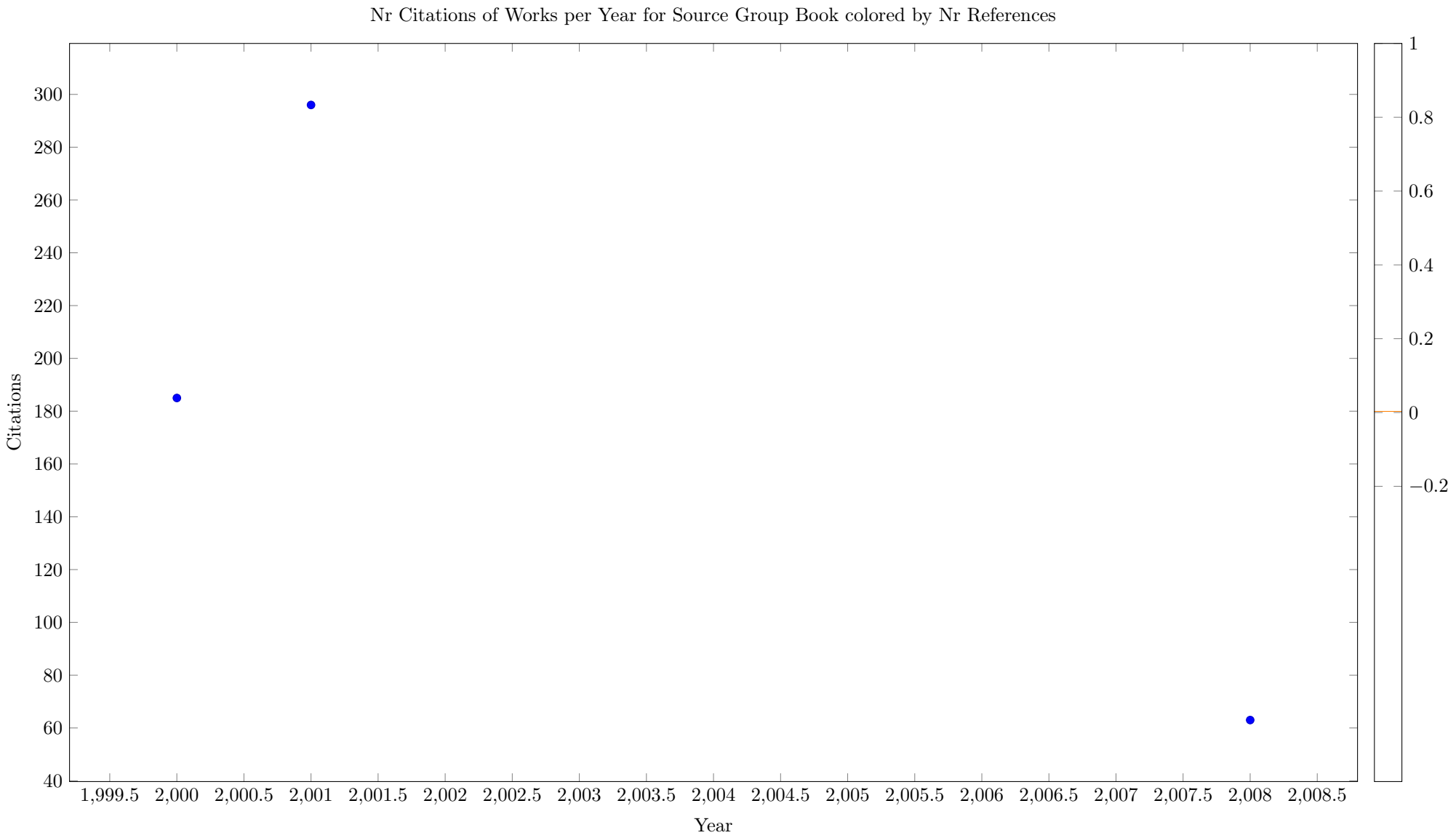
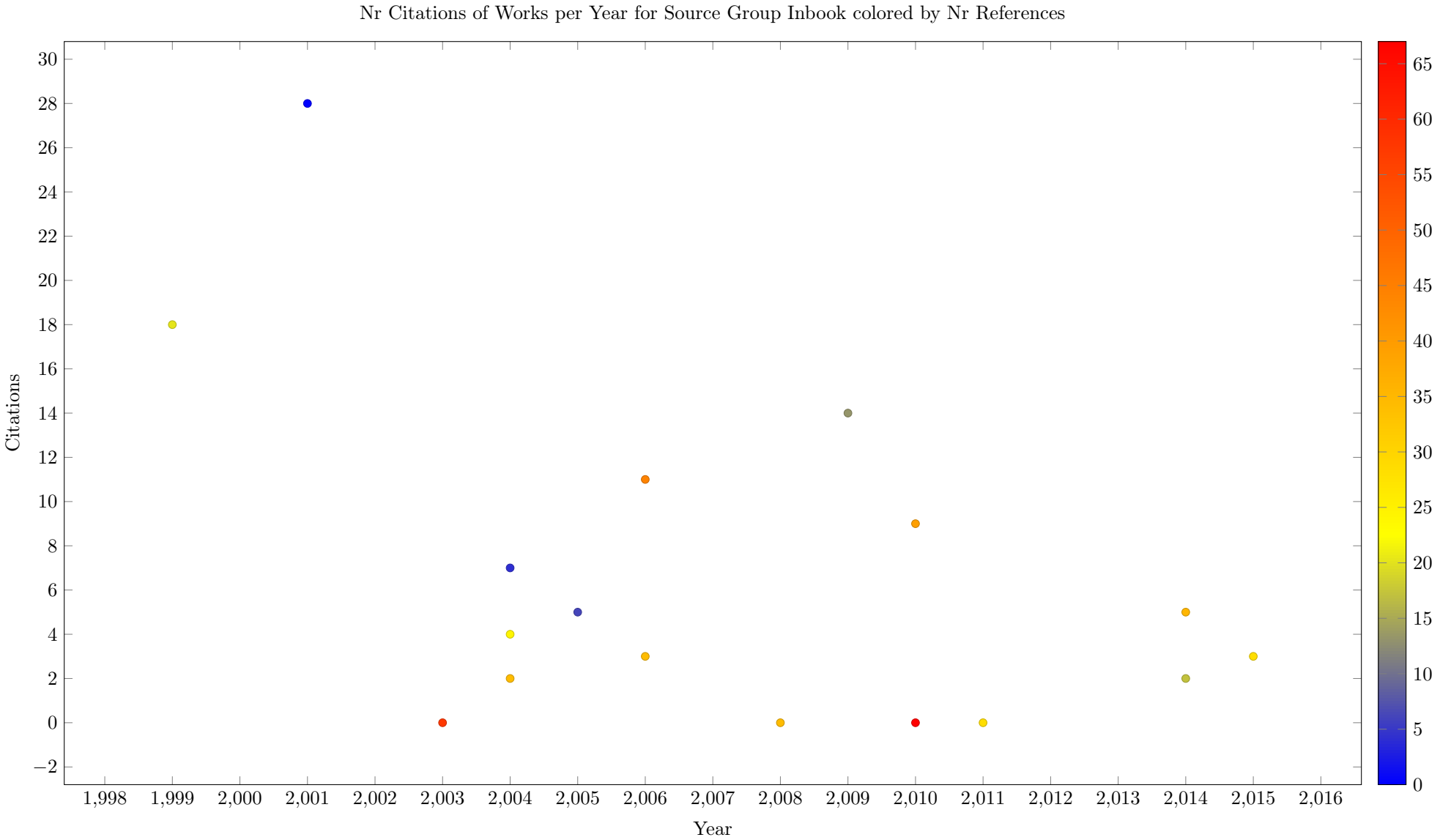
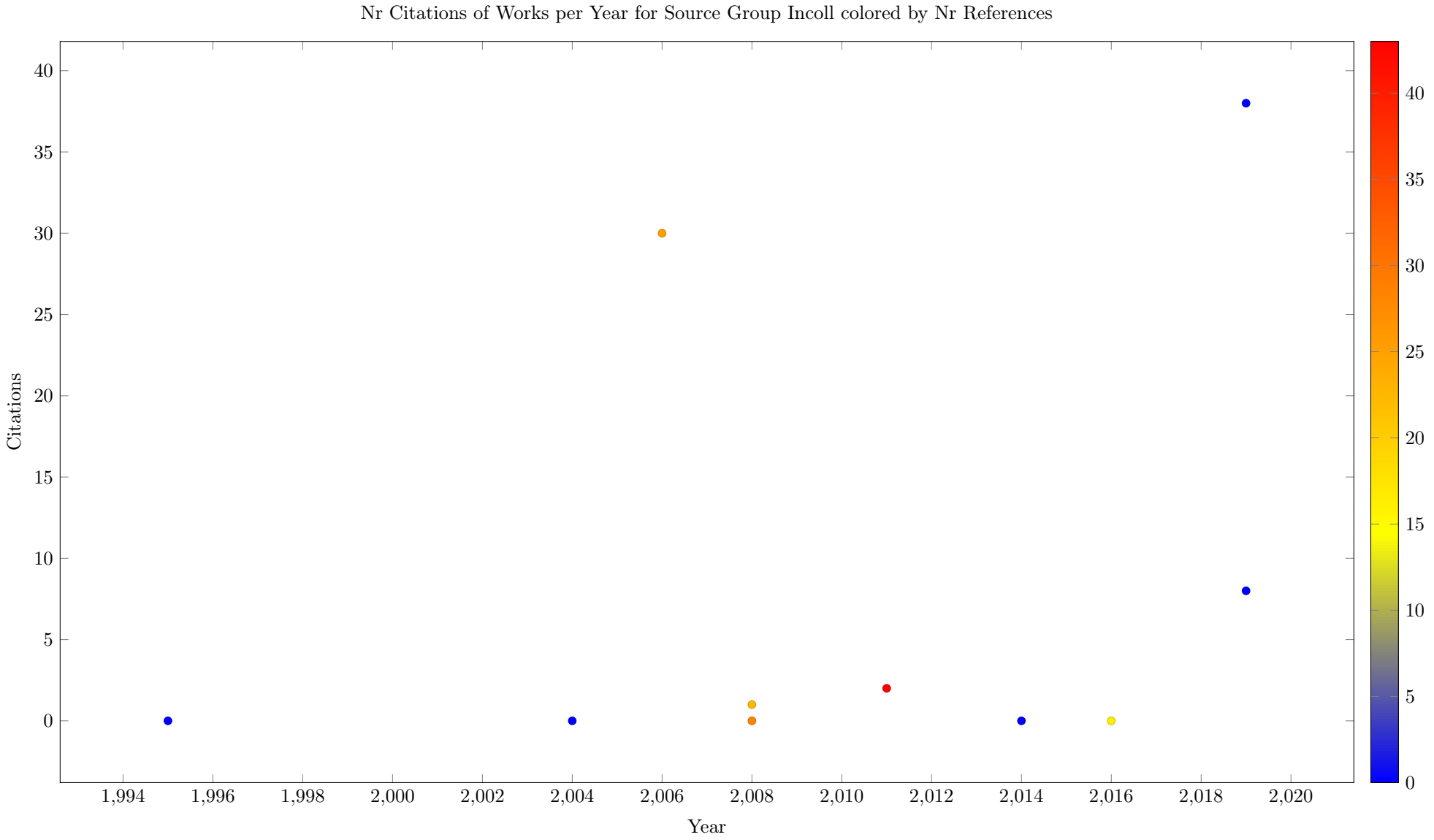
0
−0.2
2,008
2,009
2,010
2,011
2,012
2,013
2,014
2,015
2,016
2,017
2,018
2,019
2,020
2,021
2,022
2,023
2,024
2,025
Year
45
40
35
30
25
20
15
10
5
0


Nr Citations of Works per Year for Source Group OtherJournal colored by Nr References
Citations
400
350
300
250
200
150
100
50
0
1,988
1,990
1,992
1,994
1,996
1,998
2,000
2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020
2,022
2,024
2,026
Year
160
140
120
100
80
60
40
20
0


Nr Citations of Works per Year for Source Group Book colored by Nr References
Citations
300
280
260
240
220
200
180
160
140
120
100
80
60
40
1,999.5
2,000
2,000.5
2,001
2,001.5
2,002
2,002.5
2,003
2,003.5
2,004
2,004.5
2,005
2,005.5
2,006
2,006.5
2,007
2,007.5
2,008
2,008.5
Year
1
0.8
0.6
0.4
0.2
0
−0.2


Nr Citations of Works per Year for Source Group Inbook colored by Nr References
Citations
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
−2
1,998
1,999
2,000
2,001
2,002
2,003
2,004
2,005
2,006
2,007
2,008
2,009
2,010
2,011
2,012
2,013
2,014
2,015
2,016
Year
65
60
55
50
45
40
35
30
25
20
15
10
5
0


Nr Citations of Works per Year for Source Group Incoll colored by Nr References
Citations
Year
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5
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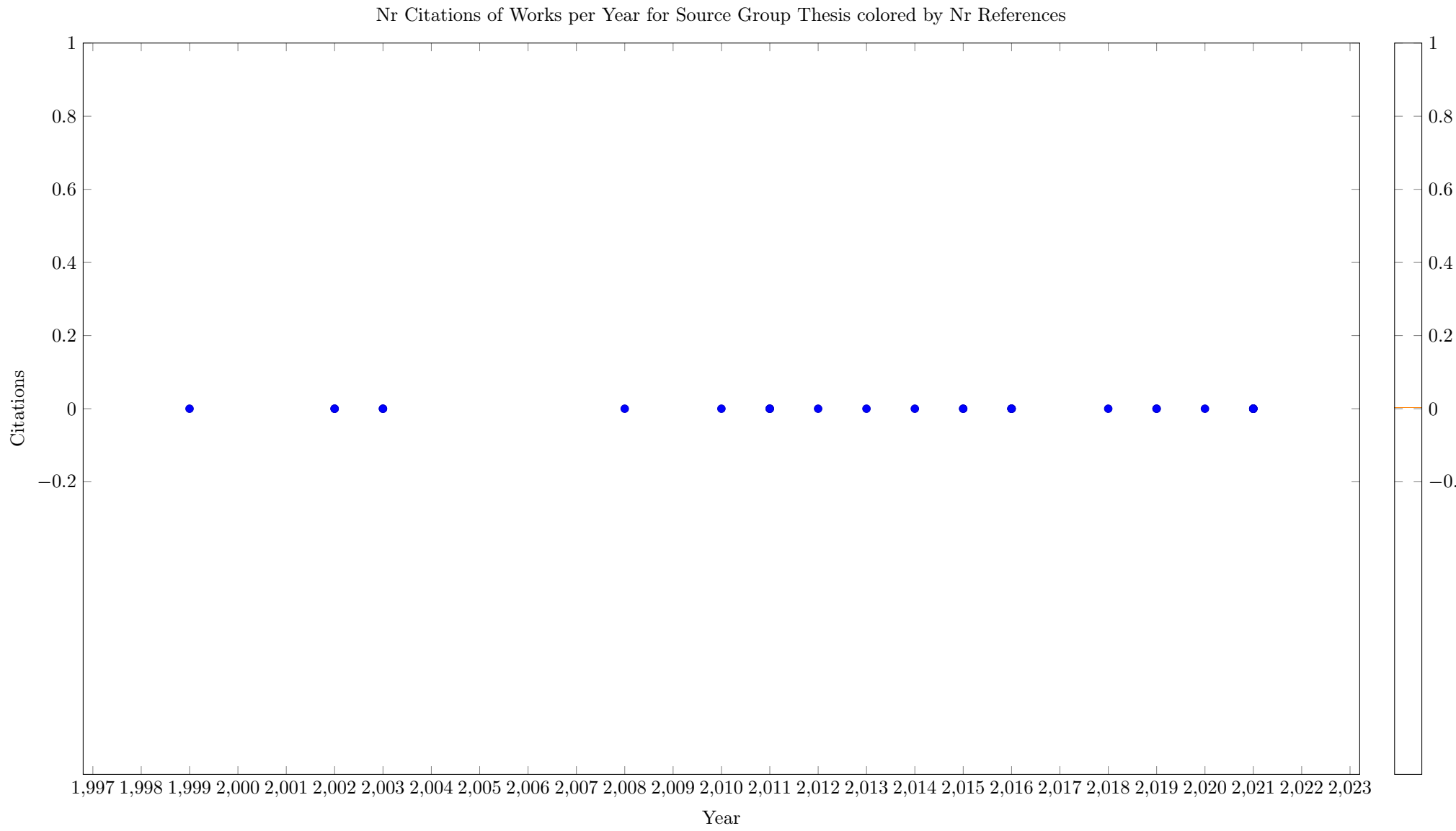
15
20
25
30
35
40
1,994
1,996
1,998
2,000
2,002
2,004
2,006
2,008
2,010
2,012
2,014
2,016
2,018
2,020


Nr Citations of Works per Year for Source Group Thesis colored by Nr References
Citations
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0.4
0.2
0
−0.2
1,997 1,998 1,999 2,000 2,001 2,002 2,003 2,004 2,005 2,006 2,007 2,008 2,009 2,010 2,011 2,012 2,013 2,014 2,015 2,016 2,017 2,018 2,019 2,020 2,021 2,022 2,023
Year

15.2 Reference Flows

The following table looks at references between source groups that are contained in the survey, i.e. where bot the citing and the cited work is included in the survey. We show how many papers referred to in the group on the left belong to the group in the column.

Table 12: Reference Flows

	Background	CP	CPAIOR	ICAPS	AAAI	IJCAI	OtherConf	Constraints	EJOR	InformsJC	AIJournal	ORJournal	OtherJournal	Book	Inbook	Incoll
Background	68	15	3				1	12	7	20	2	10	22	6	3	
CP	127	125	70	2	1	1	10	41	6	26	22	14	72	27	2	4
CPAIOR	96	111	66	1	1	1	16	47	15	25	10	23	66	27	4	2
ICAPS	4	3														
OtherConf	44	36	18				7	18	6	11	8	11	46	10	3	
Constraints	63	58	43	1			7	24	5	14	10	13	55	18	2	1
EJOR	55	3	1					10	21	19	4	18	36		2	1
InformsJC	63	21	11					19	17	26	7	15	34	15	1	1
AIJournal	32	9	4	1			7	3	9	5	16	4	32	1	1	
ORJournal	78	36	17				1	31	23	32	15	19	78	8	2	1
Preprint	4							3	11	4		4	8	1		
OtherJournal	180	67	44				11	89	70	73	46	84	342	25	4	4
Inbook	68	16	10				2	14	8	20	3	16	38	9	4	
Incoll	12	2					2	3	5	1	5	5	3	2	1	

The entries in the previous table are not directly comparable, without knowing how many works are in group. The next table presents a normalized view, where we divide the flow count by the product of the group sizes. This produces a likelihood of a paper in the source group citing a paper in the target group, given as a percentage from 0 to 100. We can see that the likelihood does not depend on the prestige of the target, e.g. papers at AAAI are cited much less than papers in CP.

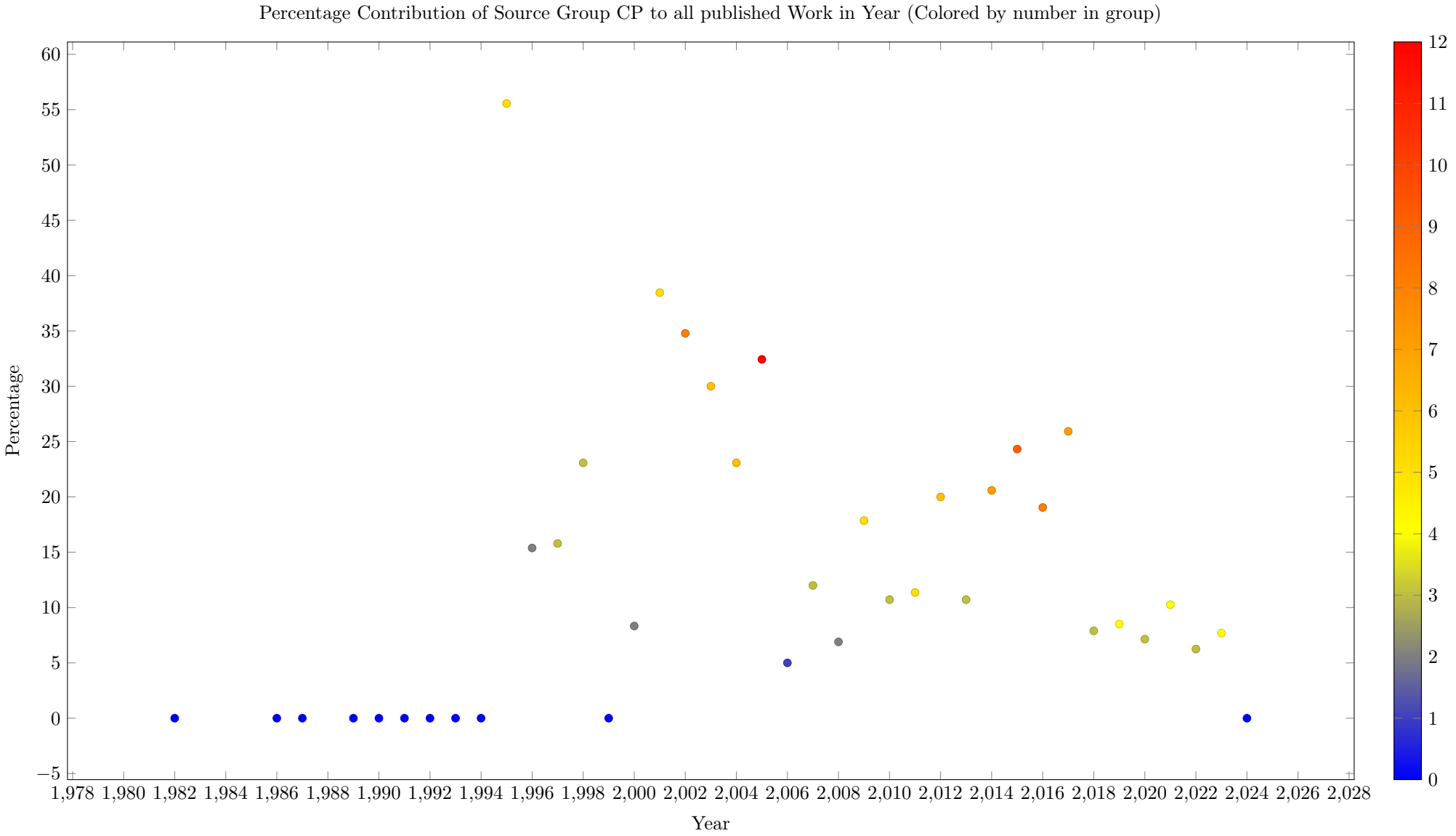
Note that the numbers are derived from the flows contained in the survey, which are based on the OpenCitation reference links. If such links are missing, or we are missing works in some group, then the results will be affected.

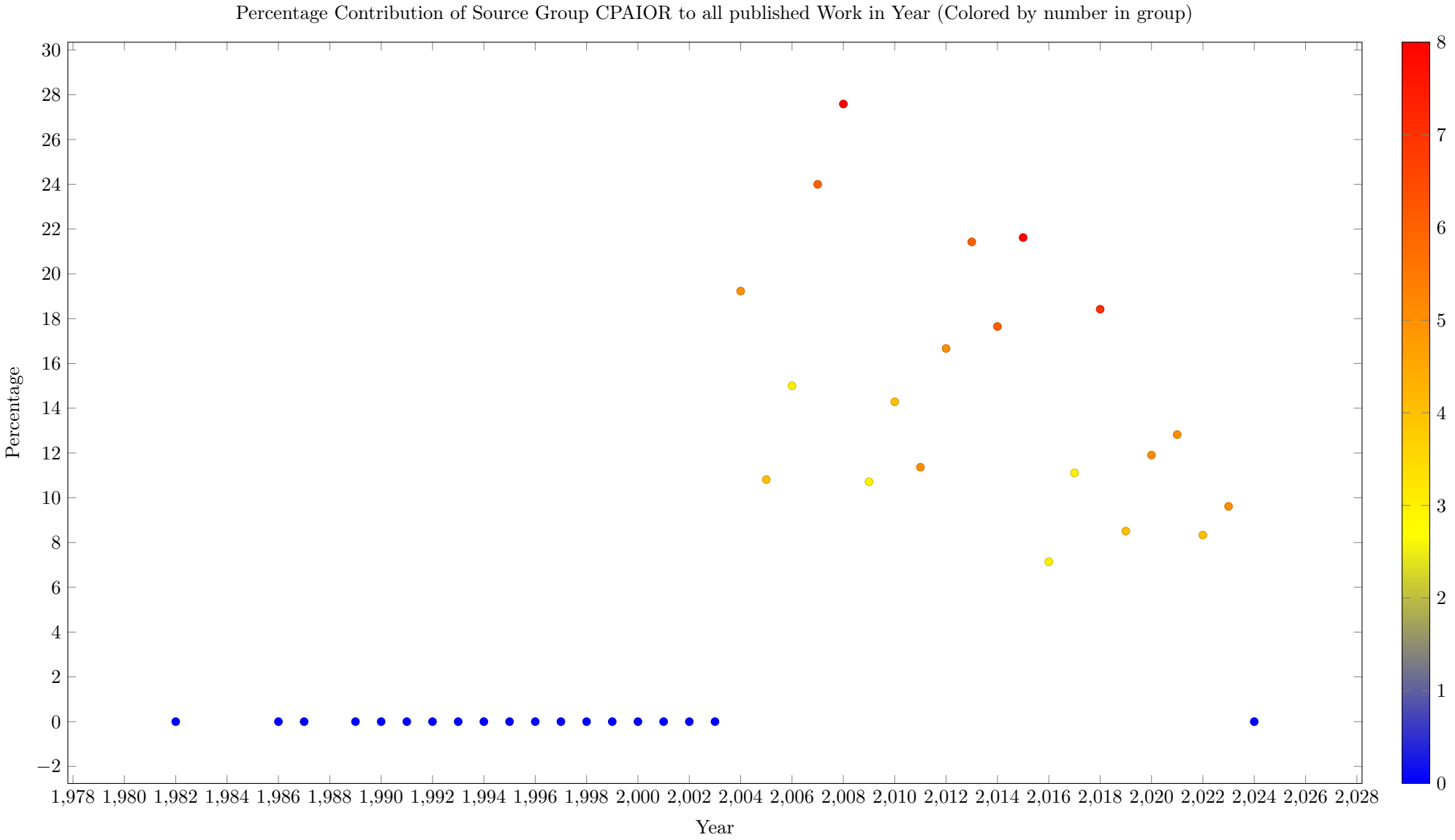
Table 13: Reference Flows Normalized

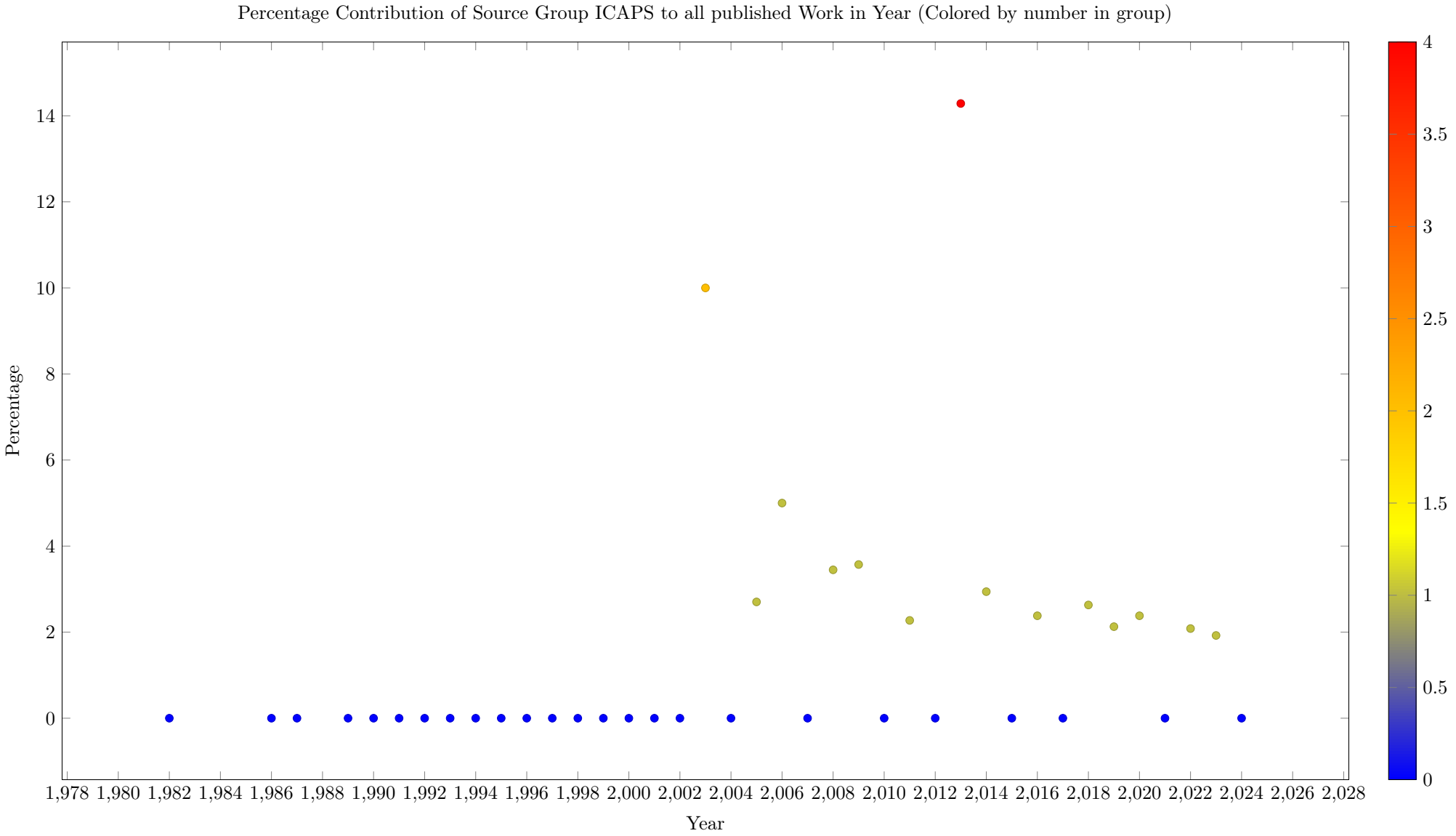
	Background	CP	CPAIOR	ICAPS	AAAI	IJCAI	OtherConf	Constraints	EJOR	InformsJC	AIJournal	ORJournal	OtherJournal	Book	Inbook	Incoll
Background	3.85	0.27	0.07				0.02	0.61	0.57	1.90	0.17	0.44	0.28	4.76	0.42	
CP	2.29	0.72	0.54	0.08	0.01	0.03	0.08	0.66	0.16	0.79	0.60	0.20	0.29	6.82	0.09	0.30
CPAIOR	2.31	0.85	0.67	0.06	0.02	0.03	0.16	1.01	0.52	1.01	0.36	0.43	0.35	9.09	0.24	0.20
ICAPS	0.53	0.13														
OtherConf	1.07	0.28	0.19				0.07	0.39	0.21	0.45	0.29	0.21	0.25	3.40	0.18	
Constraints	3.19	0.93	0.92	0.12			0.15	1.09	0.37	1.19	0.76	0.51	0.62	12.77	0.25	0.21
EJOR	4.52	0.08	0.03					0.73	2.50	2.62	0.49	1.15	0.66		0.41	0.34
InformsJC	6.00	0.64	0.44					1.62	2.34	4.16	1.00	1.11	0.72	20.00	0.24	0.40
AIJournal	2.72	0.24	0.14	0.20			0.26	0.23	1.11	0.71	2.04	0.26	0.60	1.19	0.21	
ORJournal	3.44	0.51	0.32				0.02	1.22	1.47	2.37	0.99	0.65	0.76	4.94	0.22	0.19
Preprint	0.60							0.40	2.37	1.00		0.46	0.26	2.08		
OtherJournal	2.27	0.27	0.24				0.06	1.00	1.28	1.54	0.87	0.82	0.96	4.41	0.12	0.21
Inbook	9.52	0.71	0.59				0.12	1.75	1.62	4.71	0.63	1.74	1.18	17.65	1.38	
Incoll	2.86	0.15					0.20	0.64	1.72	0.40	1.79	0.93	0.16	6.67	0.59	

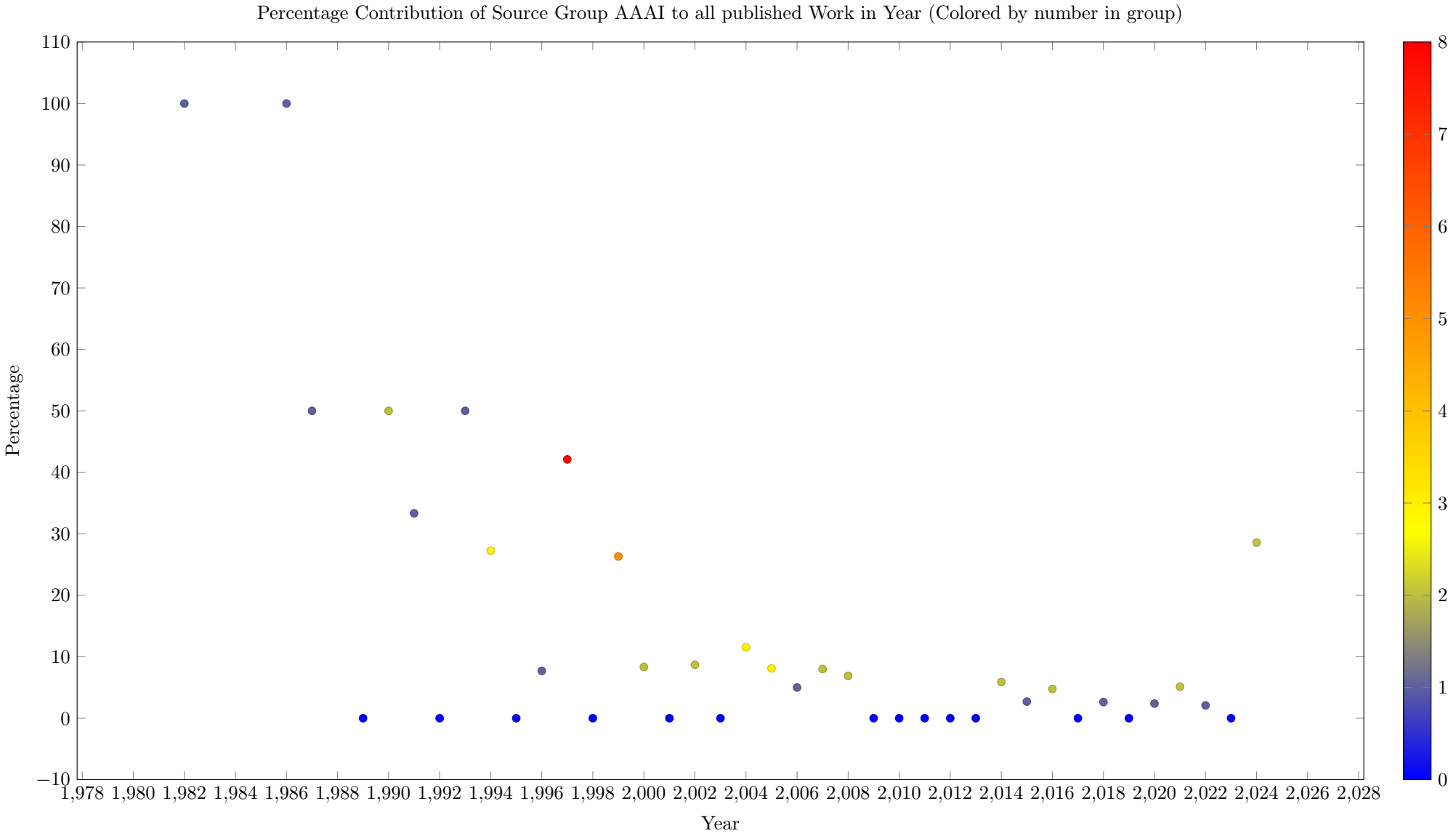
16 Contribution of Source Group to Total Works per Year

The following plots show the percentage of works published in a year belonging to a specific source group. This plot helps to understand how important that group is to the field over time


Percentage Contribution of Source Group CP to all published Work in Year (Colored by number in group)
Percentage
60
55
50
45
40
35
30
25
20
15
10
5
0
−5
1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
Year
12
11
10
9
8
7
6
5
4
3
2
1
0


Percentage Contribution of Source Group CPAIOR to all published Work in Year (Colored by number in group)
Percentage
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
−2
1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
Year
8
7
6
5
4
3
2
1
0


Percentage Contribution of Source Group ICAPS to all published Work in Year (Colored by number in group)
Percentage
0
2
4
6
8
10
12
14
Year
1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
0
0.5
1
1.5
2
2.5
3
3.5
4


Percentage Contribution of Source Group AAAI to all published Work in Year (Colored by number in group)
Percentage
Year
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100
90
80
70
60
50
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30
20
10
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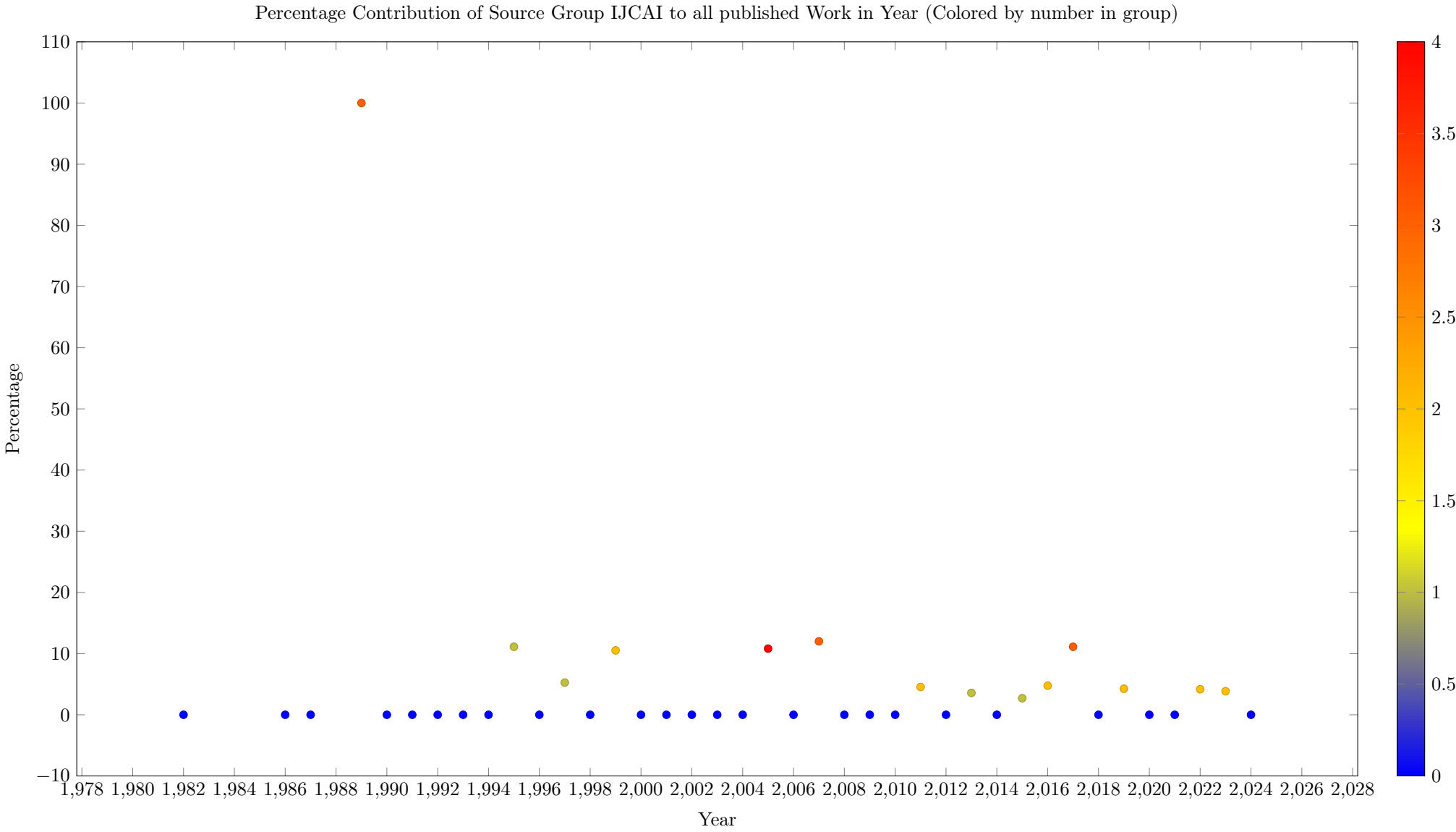
Percentage Contribution of Source Group IJCAI to all published Work in Year (Colored by number in group)
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1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
Year
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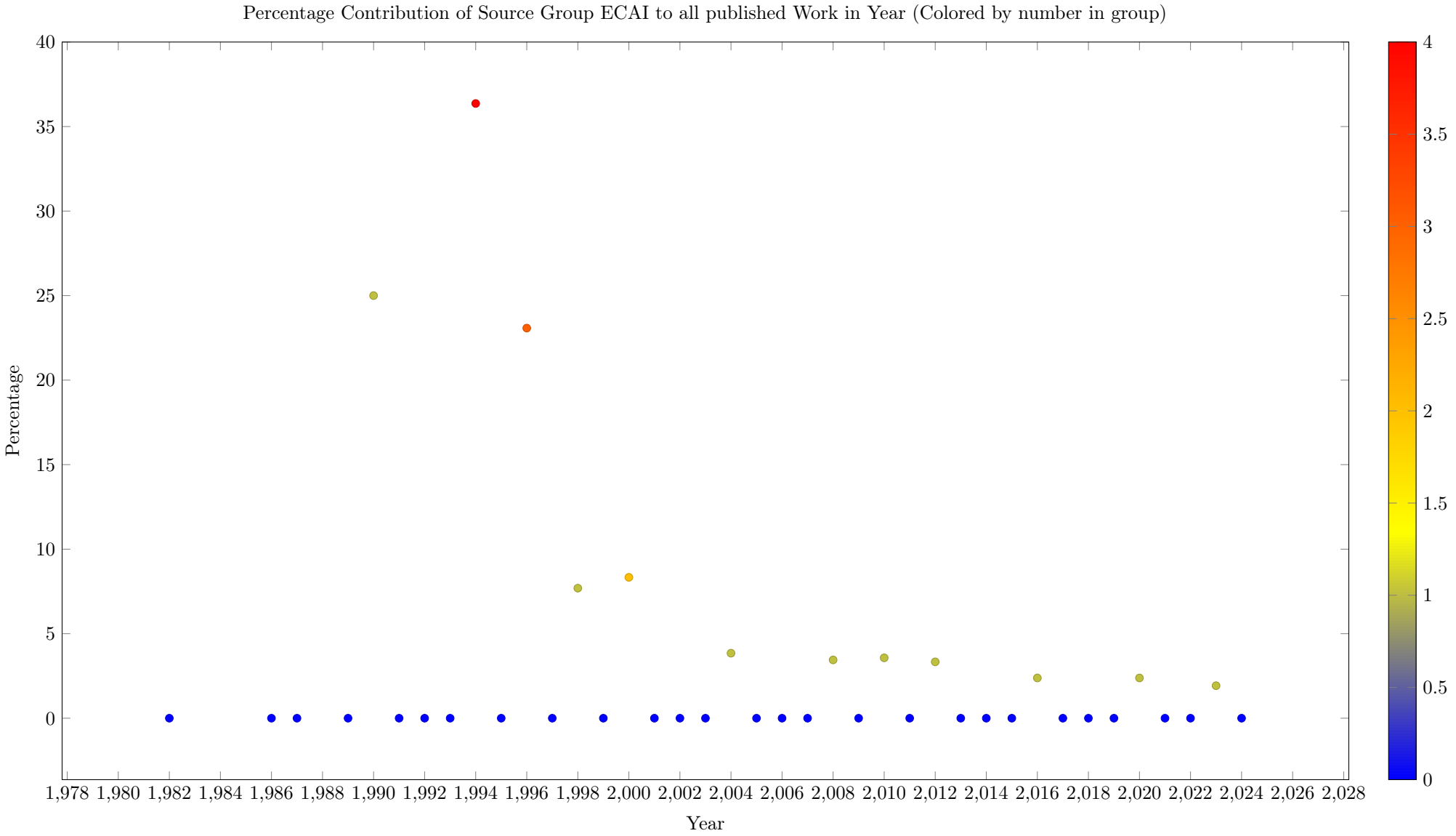
Percentage Contribution of Source Group ECAI to all published Work in Year (Colored by number in group)
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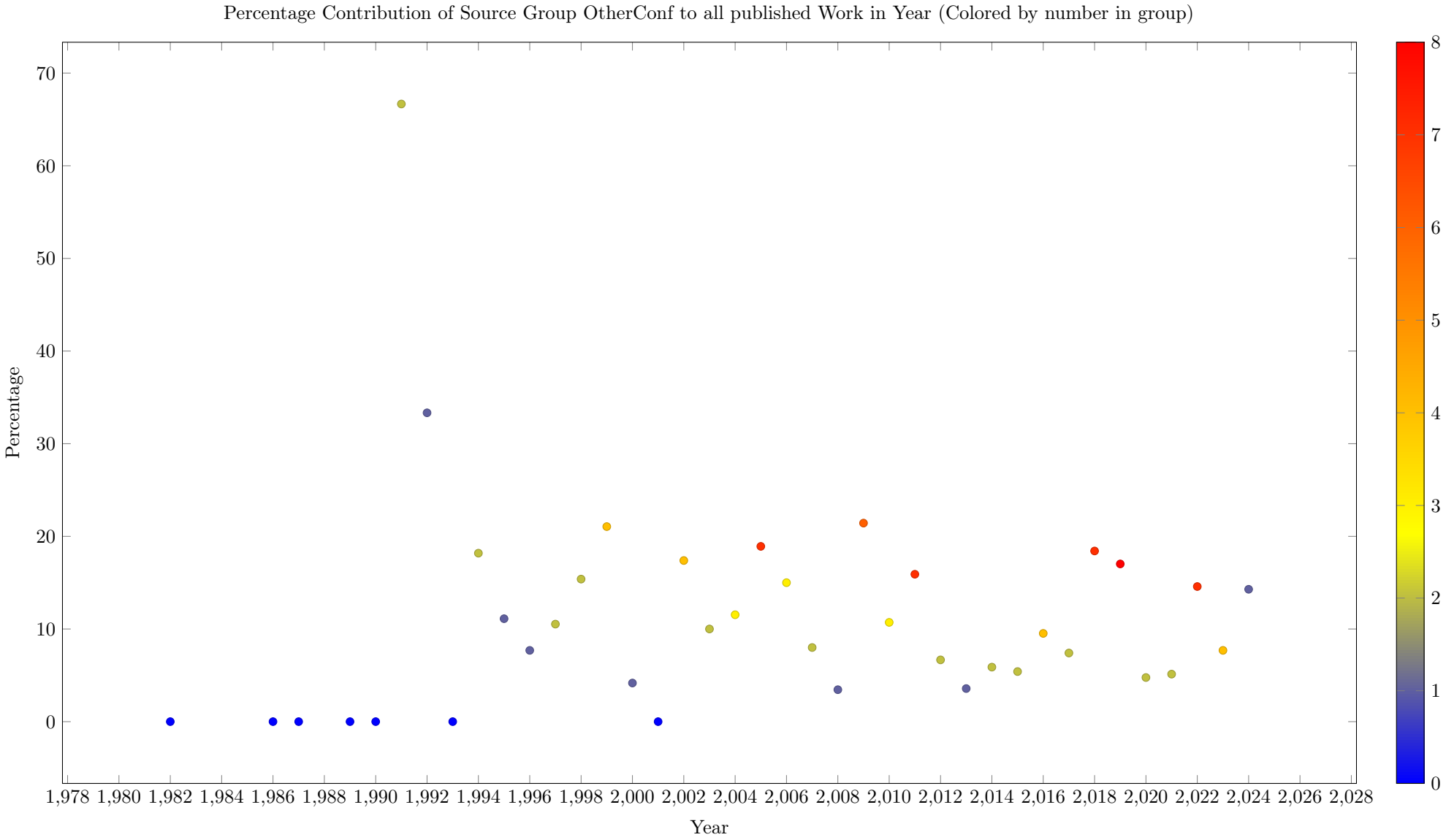
Percentage Contribution of Source Group OtherConf to all published Work in Year (Colored by number in group)
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Year
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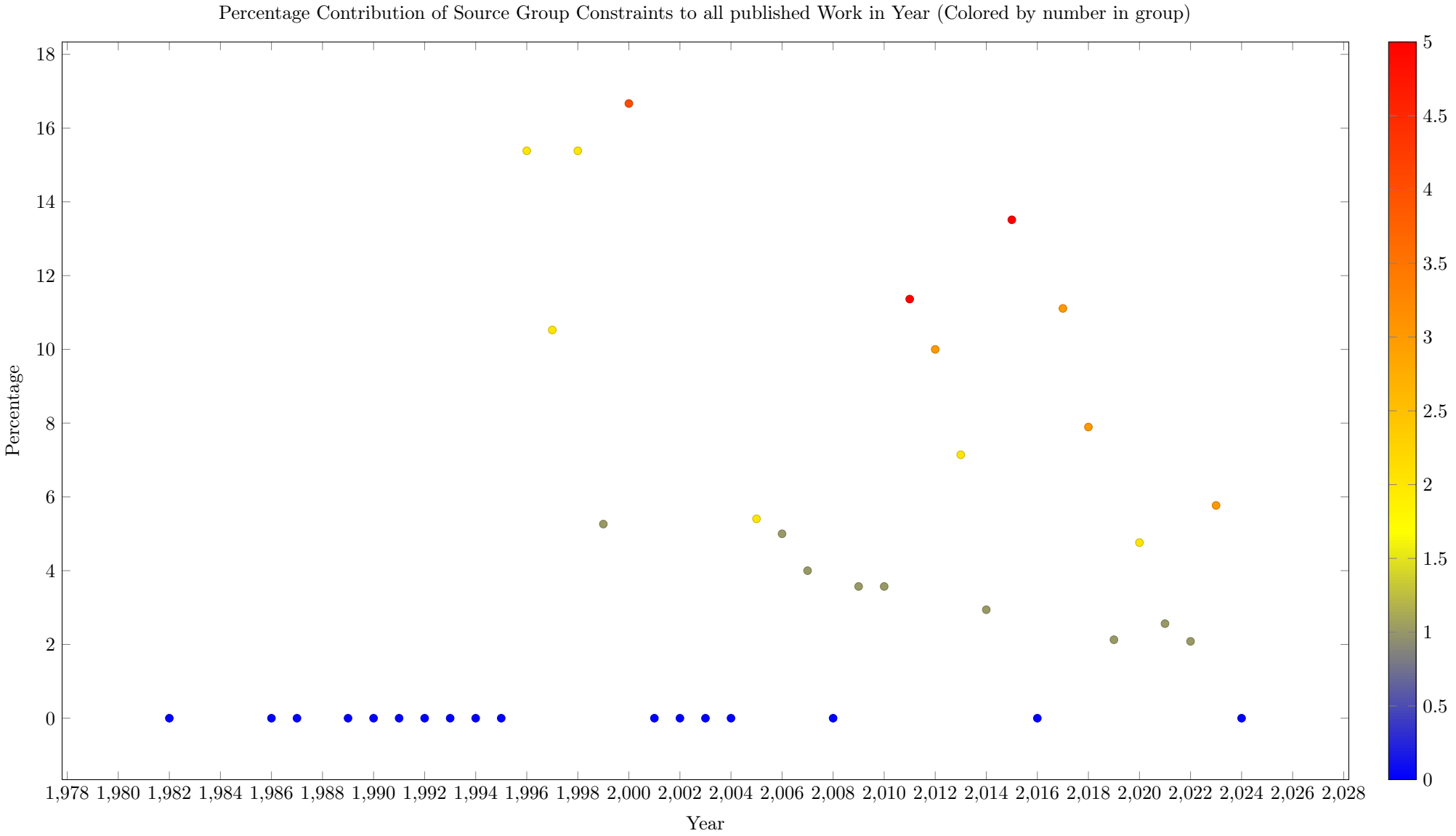
Percentage Contribution of Source Group Constraints to all published Work in Year (Colored by number in group)
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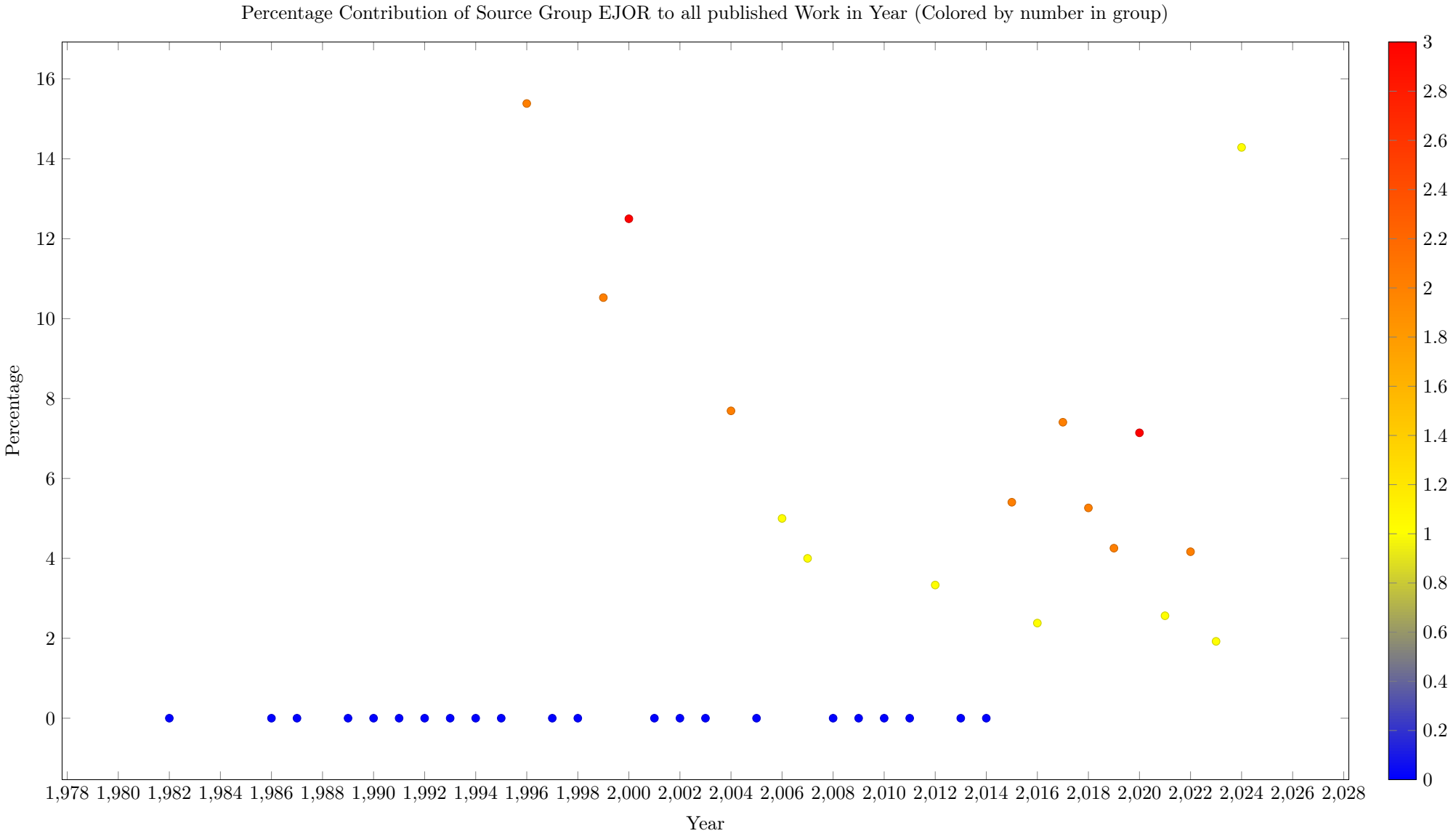
Percentage Contribution of Source Group EJOR to all published Work in Year (Colored by number in group)
Percentage
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12
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Year
1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
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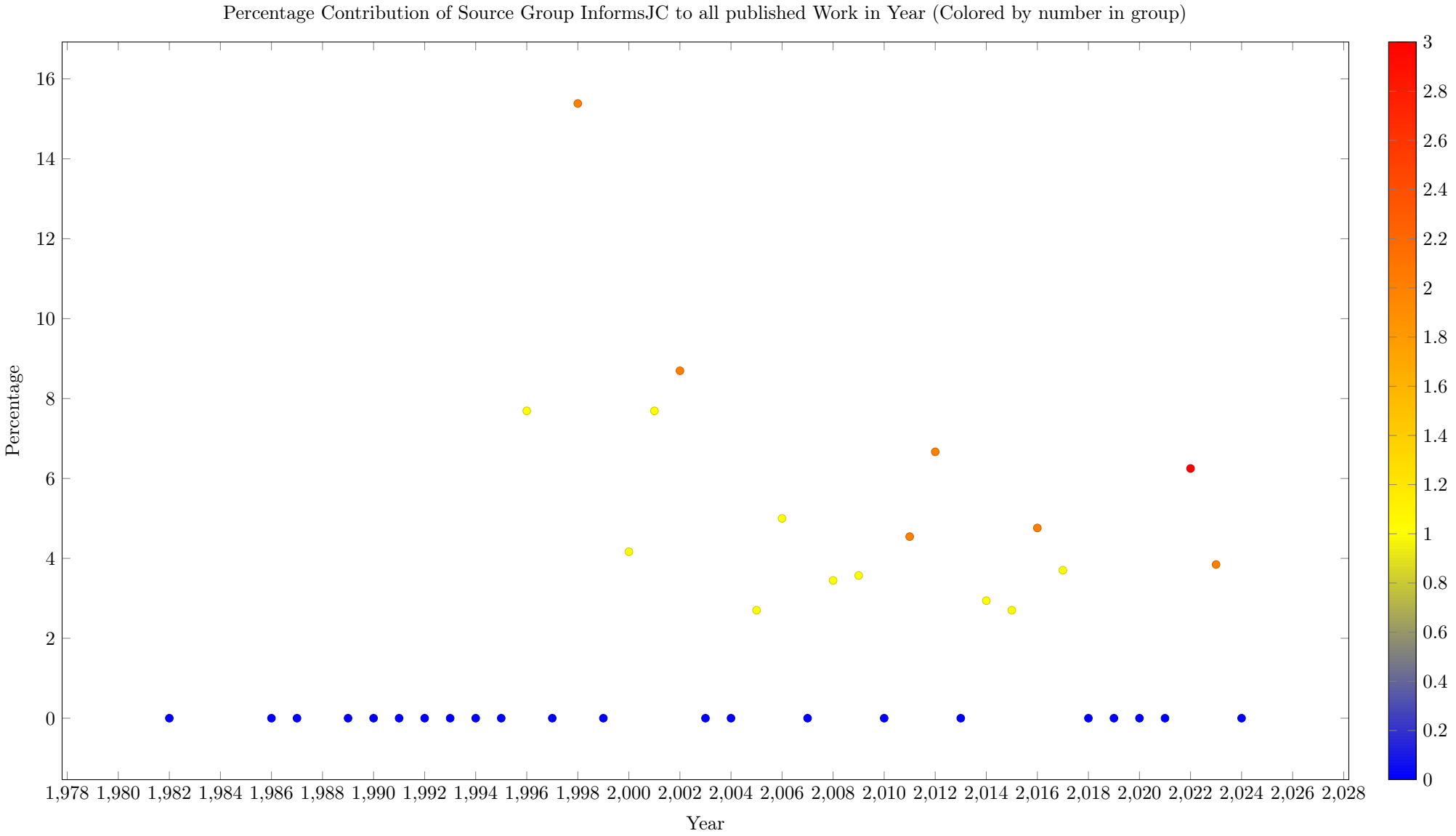
Percentage Contribution of Source Group InformsJC to all published Work in Year (Colored by number in group)
Percentage
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Year
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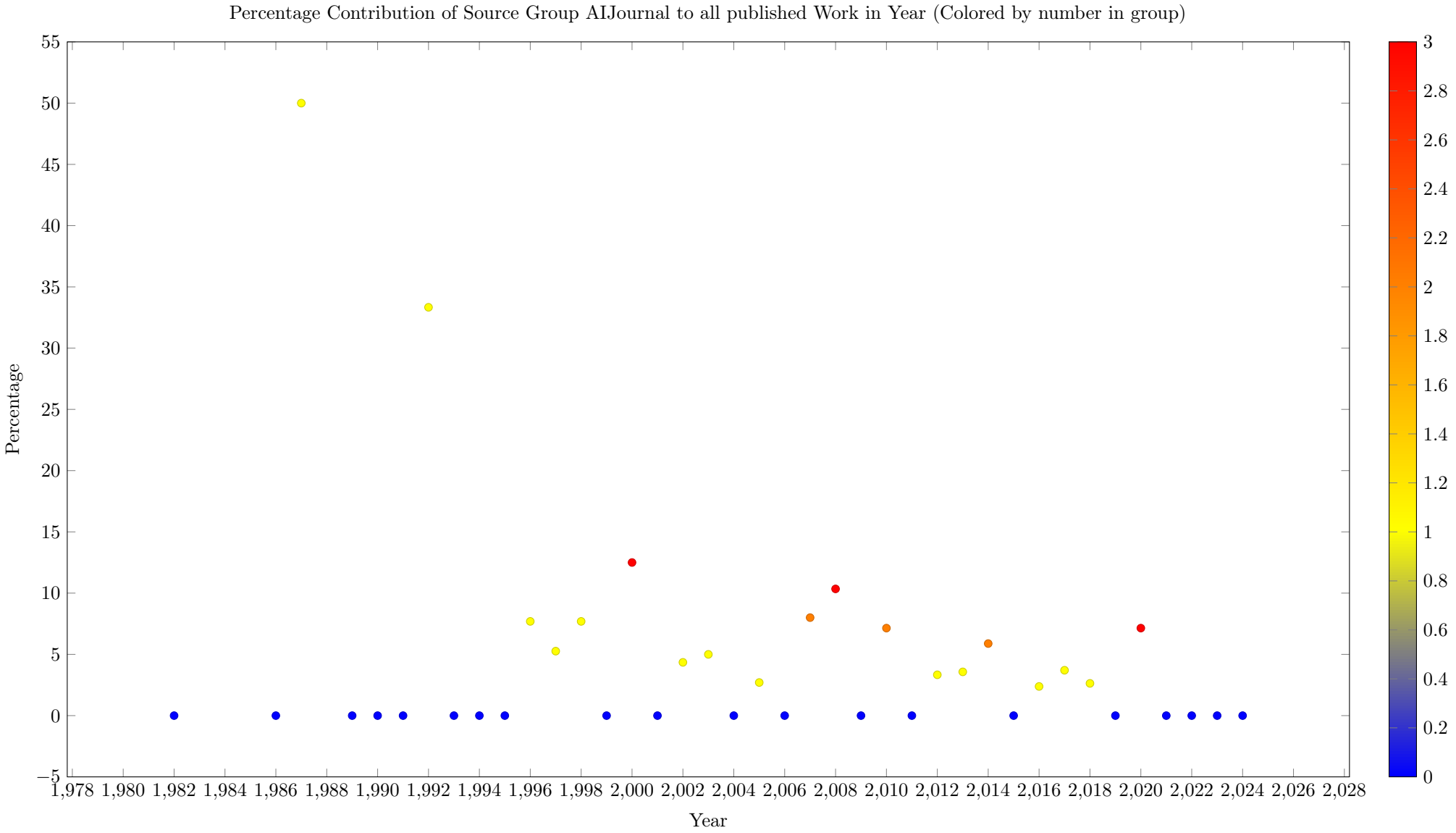
Percentage Contribution of Source Group AIJournal to all published Work in Year (Colored by number in group)
Percentage
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30
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1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
Year
3
2.8
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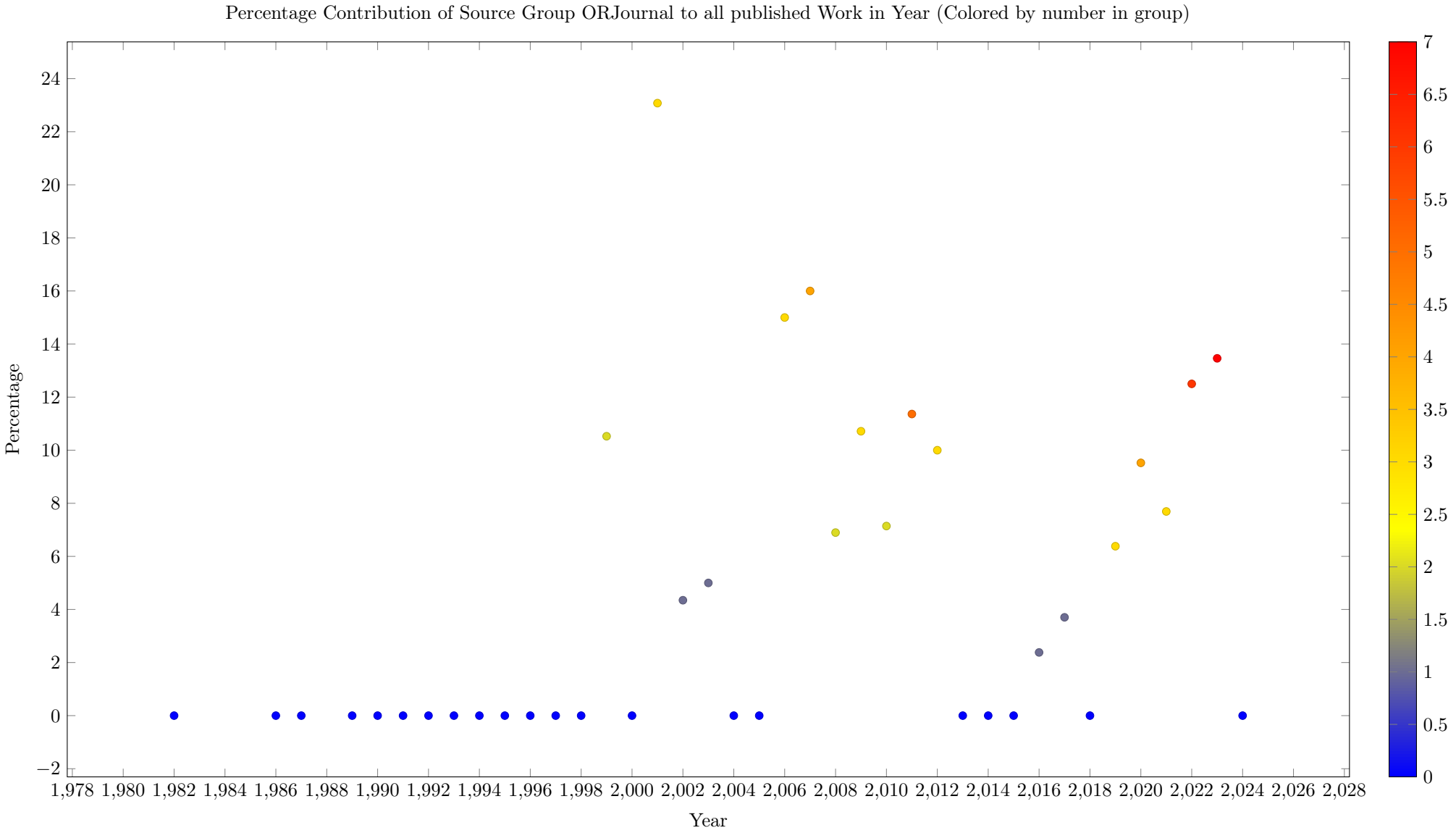
Percentage Contribution of Source Group ORJournal to all published Work in Year (Colored by number in group)
Percentage
24
22
20
18
16
14
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4
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−2
1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
Year
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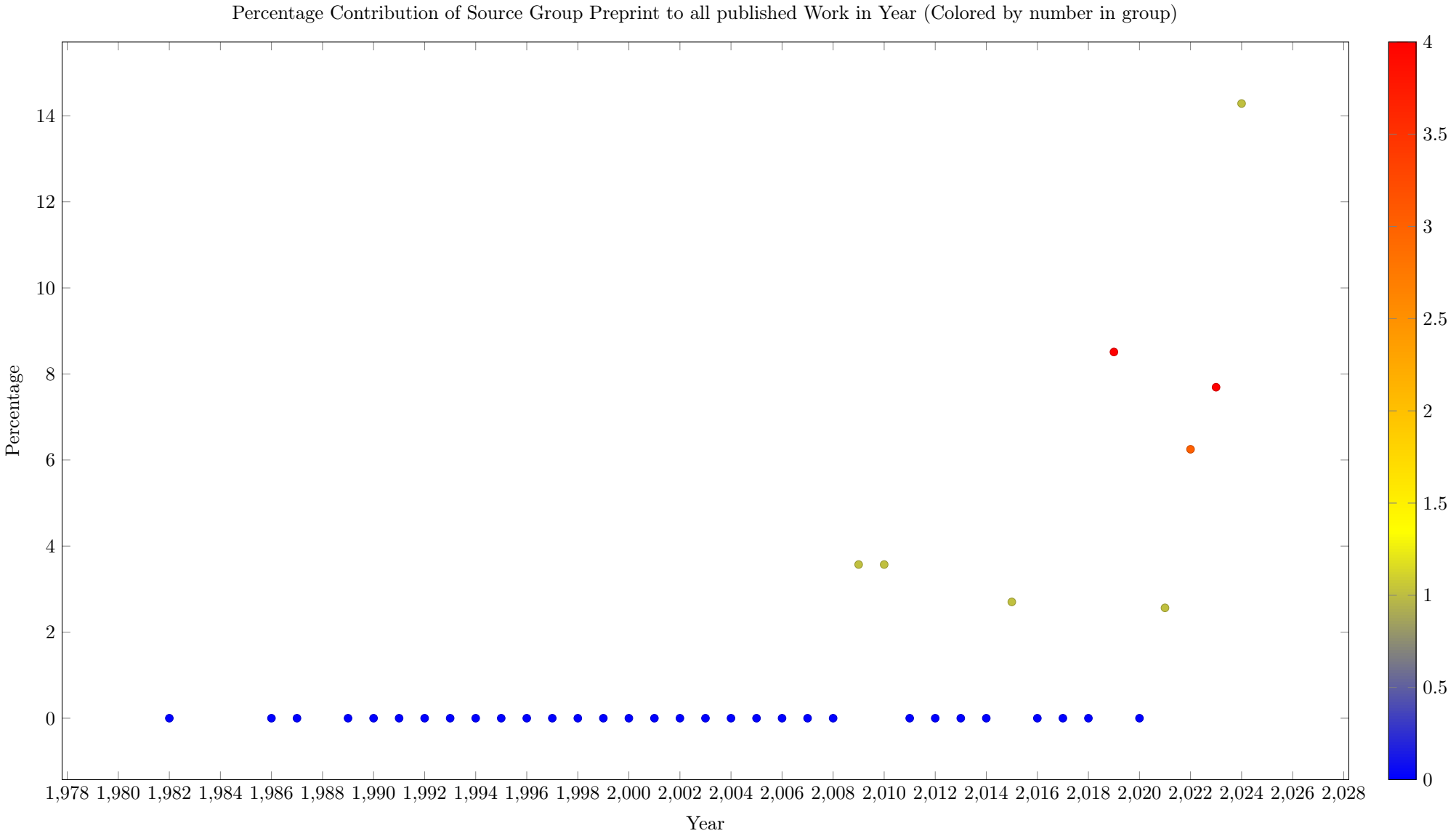
Percentage Contribution of Source Group Preprint to all published Work in Year (Colored by number in group)
Percentage
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Year
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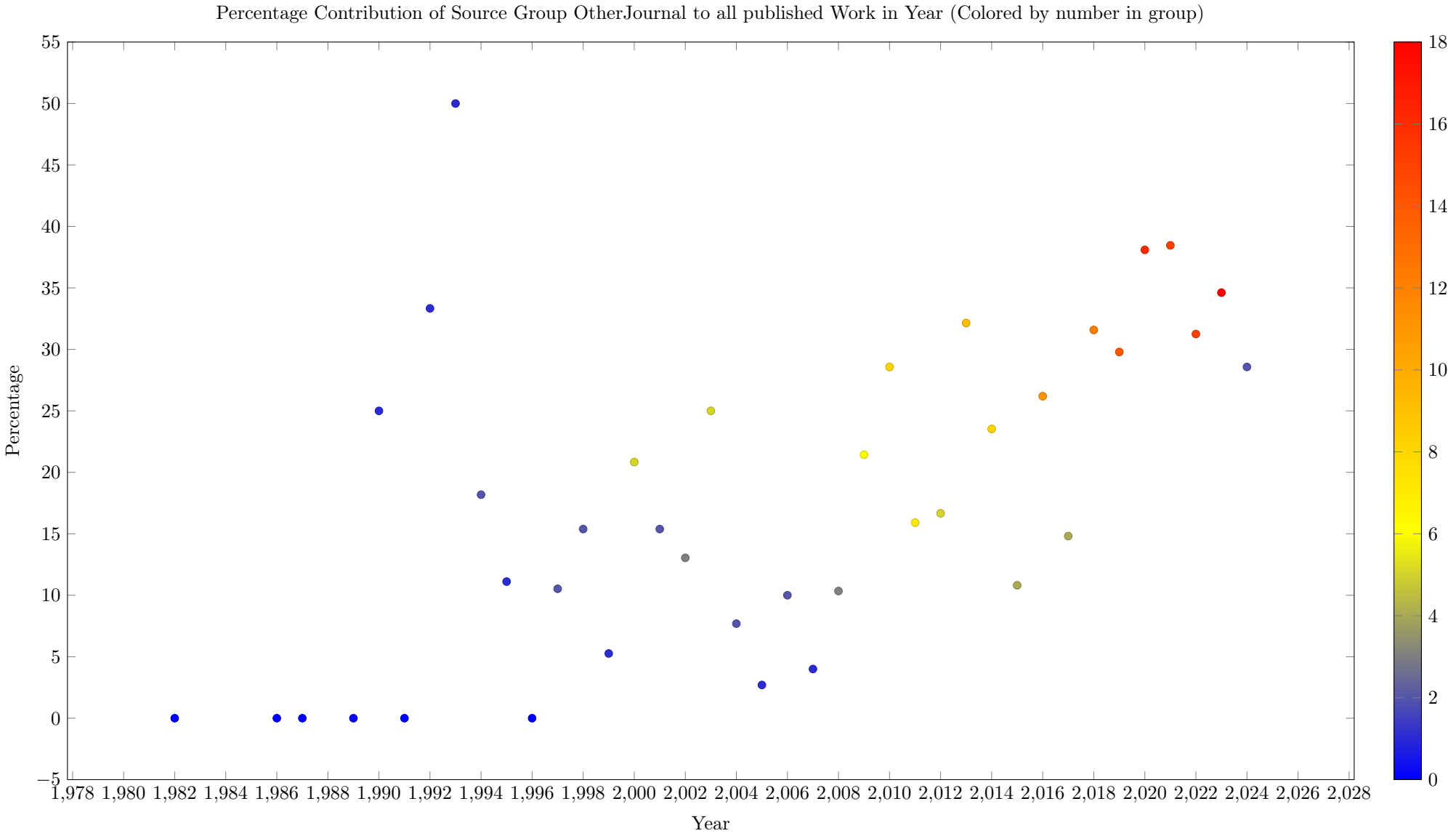
Percentage Contribution of Source Group OtherJournal to all published Work in Year (Colored by number in group)
Percentage
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1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
Year
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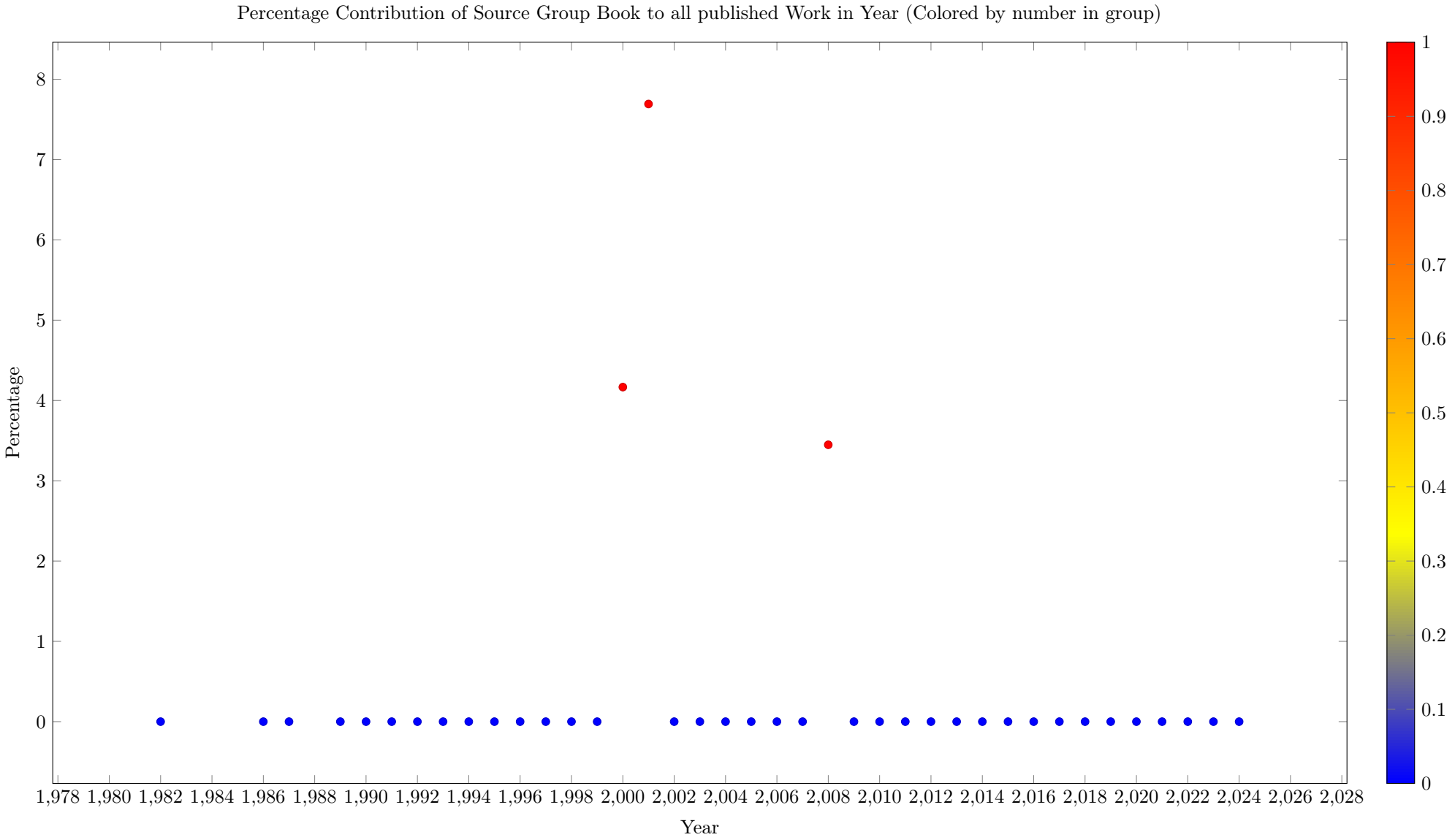
Percentage Contribution of Source Group Book to all published Work in Year (Colored by number in group)
Percentage
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Year
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Percentage Contribution of Source Group Inbook to all published Work in Year (Colored by number in group)
Percentage
12
11
10
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−1
1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
Year
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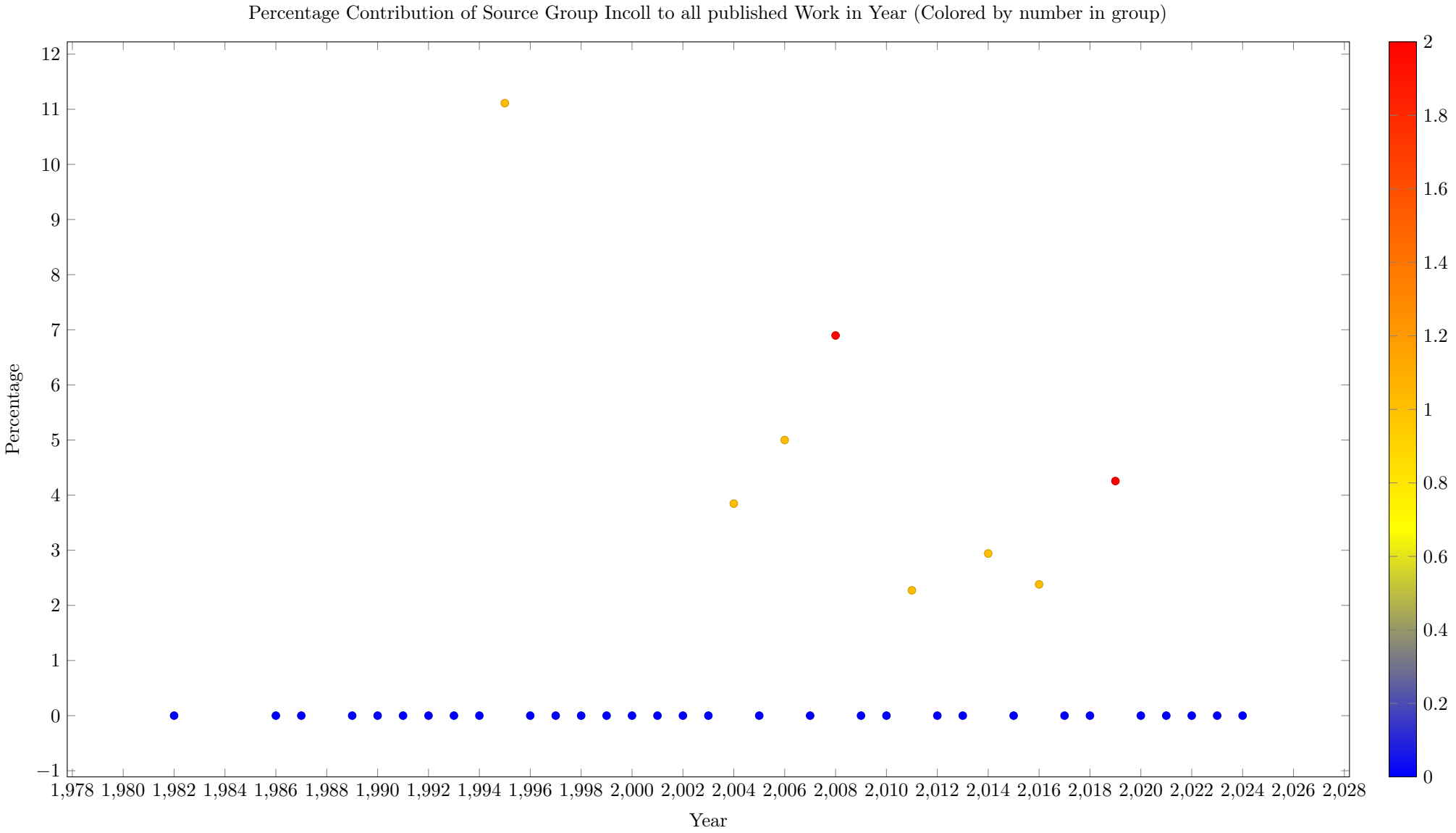
Percentage Contribution of Source Group Incoll to all published Work in Year (Colored by number in group)
Percentage
Year
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1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
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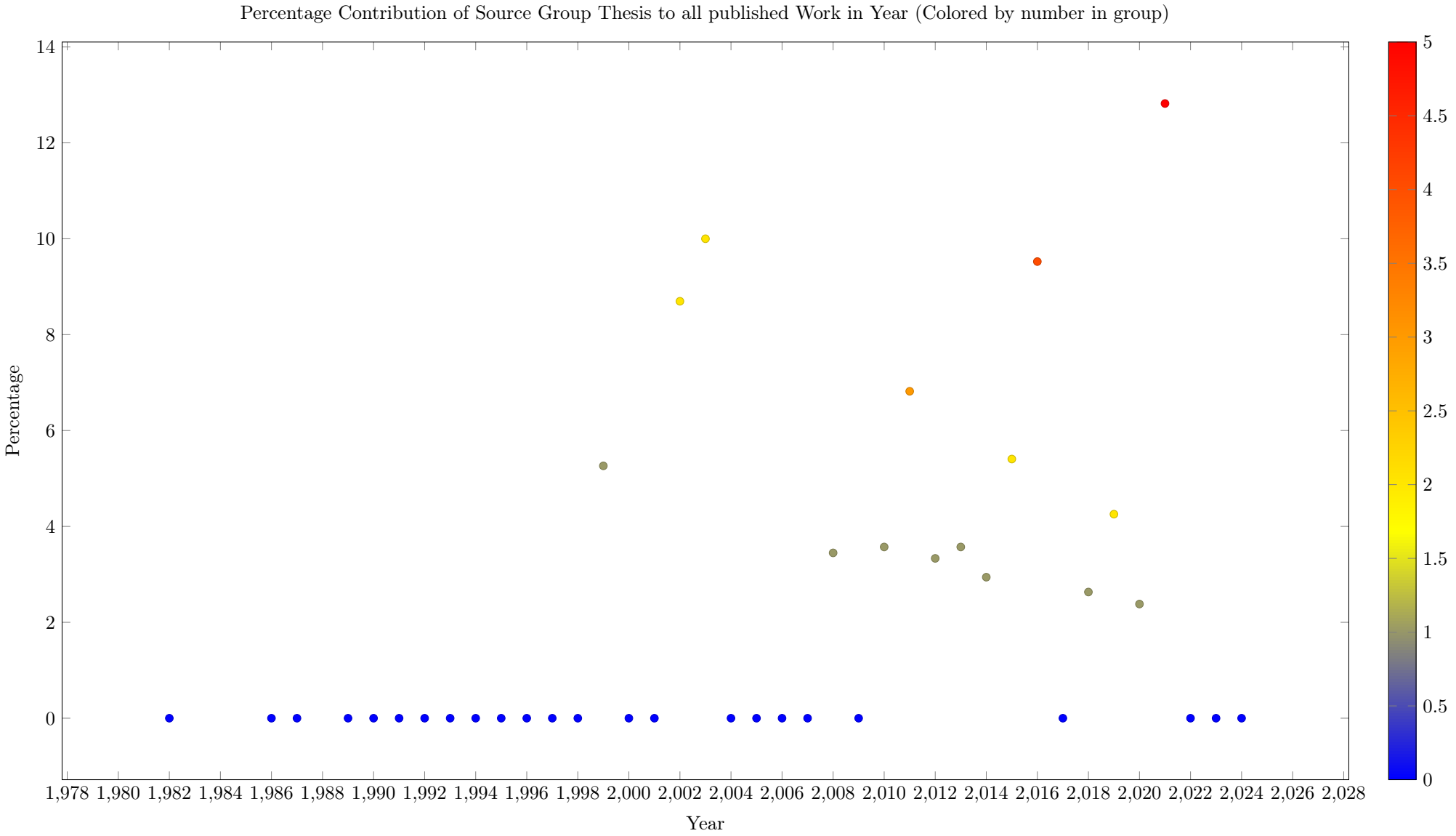
Percentage Contribution of Source Group Thesis to all published Work in Year (Colored by number in group)
Percentage
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1,978 1,980 1,982 1,984 1,986 1,988 1,990 1,992 1,994 1,996 1,998 2,000 2,002 2,004 2,006 2,008 2,010 2,012 2,014 2,016 2,018 2,020 2,022 2,024 2,026 2,028
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