

Appendix table 5-58

S&E articles, by field, citation percentile, and country/economy of institutional author: 2002 and 2012

Field and percentile	Citations (<i>n</i>)	Articles (<i>n</i>)	United States	EU	China	Japan
1998–2000 articles cited by 2002 articles (% of world)						
All fields	na	1,844,003	30.8	35.6	2.6	9.0
99th	≥ 20	17,439	57.0	28.2	0.3	5.0
95th	9–19	70,882	48.8	32.6	0.7	6.3
90th	6–8	89,959	42.5	35.2	1.2	7.2
75th	3–5	280,400	36.3	37.2	1.6	8.3
50th	2	221,009	32.1	37.1	2.1	9.2
< 50th	0–1	1,164,314	26.9	35.3	3.2	9.5
Engineering	na	146,483	24.4	31.5	5.0	12.2
99th	≥ 8	1,409	42.7	29.9	2.5	10.1
95th	5–7	3,335	34.7	33.2	3.8	10.6
90th	3–4	9,173	29.4	34.0	4.1	10.9
75th	2	12,916	27.0	33.5	4.6	11.5
50th	1	30,726	24.9	32.9	5.0	11.7
< 50th	0	88,924	22.7	30.4	5.3	12.7
Astronomy	na	21,847	33.5	39.2	1.9	5.9
99th	≥ 25	205	54.9	34.4	0.0	1.2
95th	12–24	867	52.0	35.2	0.5	2.5
90th	9–11	742	48.8	36.3	0.4	3.4
75th	5–8	2,730	43.9	38.0	0.9	4.4
50th	2–4	6,203	37.3	38.6	1.6	5.2
< 50th	0–1	11,100	26.1	40.3	2.6	7.1
Chemistry	na	227,040	19.1	37.9	5.3	11.6
99th	≥ 15	2,217	44.2	32.7	1.9	9.4
95th	8–14	7,812	35.7	36.5	2.4	10.3
90th	6–7	7,948	30.5	38.1	3.6	11.5
75th	3–5	36,633	24.6	40.6	4.0	12.1
50th	2	29,679	20.4	40.6	4.8	12.7
< 50th	0–1	142,751	15.5	36.7	6.0	11.4
Physics	na	256,589	20.6	35.9	4.7	12.2
99th	≥ 15	2,484	42.4	36.8	0.8	8.3
95th	8–14	7,489	35.7	38.2	1.9	9.6
90th	5–7	13,654	29.8	40.1	2.7	10.5
75th	3–4	26,349	26.2	39.7	3.1	11.4
50th	2	28,276	22.8	38.6	3.9	12.0
< 50th	0–1	178,337	17.8	34.5	5.4	12.6
Geosciences	na	92,346	32.0	34.6	1.9	5.3
99th	≥ 12	805	53.2	27.7	0.5	1.8
95th	7–11	2,982	43.6	33.3	1.2	2.9
90th	5–6	4,455	39.5	35.1	1.6	3.3

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Field and percentile	Citations (<i>n</i>)	Articles (<i>n</i>)	United States	EU	China	Japan
75th	3–4	11,892	37.6	36.2	1.3	3.8
50th	2	12,730	34.1	36.2	1.7	4.5
< 50th	0–1	59,482	28.9	34.0	2.2	6.1
Mathematics	na	37,391	29.0	40.4	4.7	4.6
99th	≥ 7	235	54.8	32.0	3.1	1.3
95th	4–6	929	41.4	37.7	3.5	2.3
90th	3	1,162	36.2	39.0	3.2	4.2
75th	2	2,820	34.7	40.4	4.4	3.5
50th	1	7,668	30.6	41.5	4.6	4.1
< 50th	0	24,577	26.8	40.2	4.9	5.1
Computer sciences	na	15,168	39.8	28.9	4.3	4.2
99th	≥ 7	127	63.3	20.6	0.9	1.3
95th	4–6	315	55.2	23.9	1.3	2.4
90th	3	420	47.1	29.0	5.4	2.2
75th	2	975	43.8	27.8	4.8	4.3
50th	1	2,966	41.2	30.3	4.7	3.8
< 50th	0	10,365	38.0	28.9	4.3	4.5
Agricultural sciences	na	37,851	26.2	35.0	0.9	8.6
99th	≥ 9	358	37.3	41.9	0.5	4.1
95th	5–8	1,510	34.0	41.0	0.2	5.2
90th	4	1,291	30.4	38.1	1.0	7.3
75th	3	2,503	30.2	39.9	0.9	7.3
50th	2	4,640	28.6	38.4	0.9	7.1
< 50th	0–1	27,549	24.6	33.4	0.9	9.2
Biological sciences	na	437,232	35.3	34.6	1.4	8.7
99th	≥ 30	4,251	62.4	24.1	0.1	5.3
95th	14–29	14,982	55.5	28.5	0.2	5.6
90th	9–13	21,795	50.8	31.4	0.3	6.1
75th	5–8	53,057	44.7	34.4	0.5	6.9
50th	2–4	123,647	37.2	36.0	0.9	8.7
< 50th	0–1	219,500	28.6	34.8	2.1	9.8
Medical sciences	na	452,823	34.6	38.6	0.9	8.5
99th	≥ 20	4,376	56.8	30.2	0.4	3.1
95th	10–19	16,030	50.8	33.0	0.4	5.3
90th	7–9	19,157	46.7	35.1	0.6	6.0
75th	4–6	52,179	41.5	37.2	0.6	7.2
50th	2–3	94,283	36.5	38.4	0.8	8.5
< 50th	0–1	266,798	30.4	39.6	1.1	9.2
Other life sciences	na	15,035	58.7	23.8	0.9	0.6

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S&E articles, by field, citation percentile, and country/economy of institutional author: 2002 and 2012

Field and percentile	Citations (<i>n</i>)	Articles (<i>n</i>)	United States	EU	China	Japan
99th	≥ 8	135	83.7	10.8	0.0	0.0
95th	5–7	312	73.8	15.8	0.0	0.1
90th	3–4	945	63.1	22.5	0.8	0.6
75th	2	1,523	58.3	24.9	0.9	0.4
50th	1	3,390	54.5	26.9	0.9	0.8
< 50th	0	8,730	59.0	22.9	1.0	0.7
Psychology	na	42,991	53.6	26.6	0.7	2.0
99th	≥ 13	411	71.7	18.8	0.1	0.5
95th	7–12	1,435	64.2	23.0	0.3	0.2
90th	5–6	1,846	59.3	25.6	0.4	0.7
75th	3–4	4,784	58.1	25.9	0.4	0.9
50th	2	5,086	56.1	26.4	0.6	1.2
< 50th	0–1	29,429	51.3	27.1	0.8	2.4
Social sciences	na	61,207	48.0	30.6	0.9	1.5
99th	≥ 8	483	70.0	22.9	0.4	0.2
95th	4–7	2,111	63.0	26.1	0.7	0.2
90th	3	2,061	57.3	28.1	0.9	0.6
75th	2	4,530	54.0	29.7	0.9	0.5
50th	1	11,677	50.3	30.3	0.9	1.3
< 50th	0	40,345	45.2	31.3	0.9	1.8
2008–10 articles cited by 2012 articles (% of world)						
All fields	na	2,403,728	26.6	31.6	9.2	6.3
99th	≥ 21	23,456	46.4	29.8	5.8	4.0
95th	10–20	83,363	39.9	31.7	7.2	4.5
90th	7–9	99,979	35.5	33.0	7.7	4.8
75th	4–6	288,842	31.5	33.5	8.2	5.4
50th	2–3	533,481	27.7	32.8	8.8	6.1
< 50th	0–1	1,374,607	23.3	30.6	9.8	6.8
Engineering	na	240,499	18.4	26.4	15.2	6.7
99th	≥ 17	2,253	37.5	24.6	12.2	4.3
95th	8–16	7,542	27.5	25.3	16.3	3.9
90th	5–7	13,858	22.2	26.6	16.8	4.7
75th	3–4	27,643	19.1	27.4	16.9	5.2
50th	2	30,399	17.8	27.7	16.5	6.0
< 50th	0–1	158,804	17.4	26.1	14.6	7.4
Astronomy	na	29,835	31.1	38.8	4.7	4.9
99th	≥ 31	297	48.5	39.3	0.7	3.6
95th	16–30	1,022	45.9	38.8	0.9	3.1
90th	11–15	1,419	44.6	38.9	1.2	3.1
75th	6–10	4,099	40.2	40.2	2.1	3.8

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Field and percentile	Citations (<i>n</i>)	Articles (<i>n</i>)	United States	EU	China	Japan
50th	3–5	6,814	34.0	40.7	3.7	4.9
< 50th	0–2	16,184	25.1	37.6	6.5	5.4
Chemistry	na	312,908	16.2	29.6	16.9	7.9
99th	≥ 26	2,976	33.5	28.4	16.3	5.6
95th	12–25	11,160	26.4	28.9	18.9	6.7
90th	8–11	15,922	23.1	30.2	18.9	7.1
75th	5–7	32,632	20.5	32.0	17.1	7.3
50th	3–4	50,820	17.8	32.5	16.3	7.9
< 50th	0–2	199,398	13.7	28.5	16.7	8.1
Physics	na	327,258	17.4	30.2	14.8	8.7
99th	≥ 18	3,097	37.8	36.2	5.2	6.4
95th	9–17	9,925	29.2	36.4	8.6	7.1
90th	6–8	14,861	25.9	36.8	9.6	7.2
75th	3–5	49,417	21.8	34.6	12.2	7.8
50th	2	41,310	18.6	32.5	14.0	8.5
< 50th	0–1	208,648	14.6	27.8	16.4	9.1
Geosciences	na	134,494	26.6	31.7	7.6	4.8
99th	≥ 16	1,310	43.4	26.9	8.4	2.2
95th	9–15	4,551	36.7	30.6	9.2	2.6
90th	7–8	4,702	34.7	31.8	8.5	2.7
75th	4–6	18,608	30.1	34.5	7.8	3.1
50th	2–3	34,162	27.4	33.8	7.3	4.0
< 50th	0–1	71,161	23.8	30.1	7.5	5.9
Mathematics	na	57,309	22.0	37.7	12.4	4.1
99th	≥ 7	557	44.1	34.3	7.3	1.8
95th	4–6	1,740	31.7	40.0	9.8	1.8
90th	3	1,981	27.8	40.7	10.5	2.1
75th	2	4,723	25.9	40.1	10.9	3.3
50th	1	12,269	22.8	40.0	11.4	4.0
< 50th	0	36,039	20.1	36.4	13.2	4.5
Computer sciences	na	24,945	27.2	30.6	13.0	2.0
99th	≥ 10	225	43.6	21.6	16.7	0.5
95th	5–9	863	32.0	24.3	18.7	0.8
90th	4	643	31.0	29.1	15.3	1.6
75th	2–3	3,539	27.9	29.9	13.5	1.6
50th	1	5,577	25.9	30.6	13.3	1.9
< 50th	0	14,098	26.8	31.4	12.2	2.3
Agricultural sciences	na	54,668	19.6	32.9	7.9	6.7
99th	≥ 11	515	27.6	38.6	5.9	1.9

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Field and percentile	Citations (<i>n</i>)	Articles (<i>n</i>)	United States	EU	China	Japan
95th	7–10	1,553	23.0	36.9	8.3	2.2
90th	5–6	2,893	20.2	37.6	8.0	3.4
75th	3–4	7,861	19.7	37.7	7.9	4.5
50th	2	8,485	19.6	35.2	8.0	5.6
< 50th	0–1	33,361	19.3	30.5	7.9	8.1
Biological sciences	na	482,780	31.6	31.5	6.6	6.6
99th	≥ 29	4,608	56.0	26.5	2.0	3.6
95th	12–28	19,380	48.3	31.2	2.6	4.1
90th	9–11	15,737	44.3	32.0	3.4	4.4
75th	5–8	59,288	38.7	33.2	4.6	5.2
50th	3–4	82,346	34.3	32.6	5.7	6.1
< 50th	0–2	301,421	27.3	31.0	7.7	7.4
Medical sciences	na	544,150	32.9	34.5	4.0	5.9
99th	≥ 20	5,182	51.0	32.1	1.5	2.2
95th	10–19	19,218	47.2	33.6	2.0	3.2
90th	7–9	24,274	42.9	34.7	2.5	4.0
75th	4–6	69,209	38.7	34.9	3.3	4.7
50th	2–3	124,975	34.1	34.5	4.1	5.8
< 50th	0–1	301,292	29.0	34.5	4.4	6.7
Other life sciences	na	29,364	47.0	24.0	1.5	0.9
99th	≥ 9	267	68.1	18.9	1.1	0.2
95th	5–8	1,117	55.5	22.8	1.1	0.3
90th	4	990	46.4	27.9	1.4	0.2
75th	3	1,845	50.0	24.8	1.3	0.4
50th	2	3,609	46.3	25.9	1.5	0.4
< 50th	0–1	21,536	46.2	23.6	1.5	1.2
Psychology	na	66,147	45.2	31.7	1.3	1.6
99th	≥ 16	636	63.7	25.0	0.3	0.2
95th	9–15	2,011	58.8	27.5	0.5	0.2
90th	6–8	3,543	52.7	31.0	0.4	0.5
75th	4–5	6,279	48.9	32.1	0.8	0.7
50th	2–3	15,520	46.9	31.9	1.2	1.1
< 50th	0–1	38,158	42.2	31.9	1.6	2.2
Social sciences	na	99,371	37.4	35.6	1.9	1.6
99th	≥ 10	945	49.3	32.5	1.0	0.4
95th	6–9	2,503	45.9	34.4	2.0	0.9
90th	4–5	4,729	44.5	35.2	1.7	0.8

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Field and percentile	Citations (<i>n</i>)	Articles (<i>n</i>)	United States	EU	China	Japan
75th	2-3	15,626	40.8	35.9	1.9	1.0
50th	1	21,335	37.9	36.3	2.0	1.4
< 50th	0	54,233	34.9	35.5	1.9	1.9

na = not applicable.

EU = European Union.

NOTES: Article counts are from the from set of journals covered by the Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Articles are classified by the year they entered the database, rather than the year of publication, and are assigned to a region/country/economy on the basis of the institutional address(es) listed in the article. Articles are credited on a fractional-count basis (i.e., for articles with collaborating institutions from multiple countries/economies, each country/economy receives fractional credit on the basis of the proportion of its participating institutions. Citation data are based on a 3-year period with 2-year lag (e.g., citations for 2012 are references made in articles in the 2012 data tape to articles in the 2008–10 data tapes). See appendix table 5-25 for countries/economies included in the EU and Asia. Percentiles are approximate because of the method of counting citations and are always higher than stated. Detail may not add to total because of rounding.

SOURCES: National Science Foundation, National Center for Science and Engineering Statistics, and The Patent Board™, special tabulations (2013) from Thomson Reuters, SCI and SSCI, http://thomsonreuters.com/products_services/science/.

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