Editorial: Titanium alloys: a bibliometric analysis

J. Paulo Davim

Department of Mechanical Engineering,
University of Aveiro,
Campus Santiago, 3810-193 Aveiro, Portugal
Email: pdavim@ua.pt

Titanium alloys have received special attention recently due to their wide range of applications in aerospace, aircraft, automotive, chemical, and biomedical industries. However, these expensive materials of higher performance present poor machinability (Davim, 2014; Veiga et al., 2012).

The bibliometric analysis used the database Scopus/Elsevier to search for the documents. Using the term {titanium alloys}, TITLE-ABS-KEY ({titanium alloys}), 105,690 documents were identified (search carried out on 5th August 2025).

The results obtained in documents can be seen in Table 1, for the first ten positions concerning year, source, author, affiliation, country, document type, scientific area, and funding support. The better results obtained shown in the function of the number of documents produced: year 2024 (8,596), followed by the years 2023 (6,977) and 2022 (6,839); source *Materials Science and Engineering A* – Elsevier (4,584) followed by *Journal of Alloys and Compounds* – Elsevier (3,676) and *Materials Science Forum* – Trans Tech Publications (2,203); author Yang, R. – University of Science and Technology of China (494), followed by Niinomi, M. – Institute for Materials Research, Tohoku University (401) and Li, J. – State Key Laboratory of Solidification Processing (343); affiliation Chinese Academy of Sciences (3,821) followed by Ministry of Education of China (3,585) and Harbin Institute of Technology (3,326); country China (40,778) followed by USA (12,742) and Japan (7,855); document type article (82,855) followed by conference paper (19,289) and review (1,907); scientific area materials science (78,271) followed by engineering (69,766) and physics and astronomy (41,981) and funding support National Natural Science Foundation of China (18,547) followed by and National Key Research and Development Program of China (3,584) and Fundamental Research Funds for Central Universities (2,547).

Table 1 Documents (105,690)

	Year	*Source*	*Author*	*Affiliation*
1	2024 (8,596)	*Materials Science and Engineering A* (4,584)	Yang, R. (494)	Chinese Academy of Sciences (3,821)
2	2023 (6,977)	*Journal of Alloys and Compounds* (3,676)	Niinomi, M. (401)	Ministry of Education of China (3,585)
3	2022 (6,839)	*Materials Science Forum* (2,203)	Li, J. (343)	Harbin Institute of Technology (3,326)

Source: Scopus/Elsevier, 5th August 2025

Copyright © 2025 Inderscience Enterprises Ltd.

Table 1 Documents (105,690) (continued)

	Year	*Source*	*Author*	*Affiliation*
4	2021 (6,313)	*Materials* (2,112)	Chen, R. (295)	Northwestern Polytechnical University (3,007)
5	2019 (6,023)	*Rare Metal Materials and Engineering* (1,852)	Zhao, Y. (277)	University of Science and Technology Beijing (1,843)
6	2020 (5,895)	*Surface and Coatings Technology* (1,747)	Kou, H. (271)	Inst. of Metal Res. Chinese Academy of Sciences (1,839)
7	2018 (5,568)	*Int. J. Adv. Manuf. Tech*. (1,444)	Clemens, H. (252)	State Key Laboratory of Solidification Proc. (1,781)
8	2017 (4,422)	*J. of Materials Eng. and Performance* (1,435)	Fu, H. (249)	Beihang University (1,514)
9	2015 (3,643)	*J. of Materials Research and Technology* (1,369)	Miyazaki, S. (233)	Central South University (1,480)
10	2016 (3,573)	*Acta Materialia* (1,230)	Zeng, W. (222)	Tohoku University (1,452)
	Country	*Type*	*Area*	*Funding support*
1	China (40,778)	Article (82,855)	Materials sc. (78,271)	National Natural Sci. Found. of China (18,547)
2	USA (12,742)	Conference paper (19,289)	Engineering (69,776)	National Key Res. and Dev. Program of China (3,584)
3	Japan (7,855)	Review (1,907)	Physics and astr. (41,981)	Fundamental Res. Funds for Central Universities (2,547)
4	India (7,040)	Book chapter (898)	Chemistry (10,423)	National Science Foundation (1,660)
5	Russian Fed. (5,746)	Conference review (264)	Chemical eng. (5,947)	China Postdoctoral Science Foundation (1,544)
6	Germany (5,308)	Letter (133)	Computer science (5,450)	Japan Society for the Promotion of Science (1,363)
7	UK (4,410)	Book (87)	Mathematics (3,489)	Engineering and Physical Sci. Res. Council (1,076)
8	France (3,439)	Book (323)	Energy (3,135)	U.S. Department of Energy (1,041)
9	South Korea (2,775)	Note (71)	Earth and planet sciences (2,497)	D. Forschungsgemeinschaft (953)
10	Poland (2,286)	Data paper (33)	Biochemistry (1,816)	Russian Science Foundation (815)

Source: Scopus/Elsevier, 5th August 2025

References

Davim, J.P. (2014) *Machining of Titanium Alloys*, Springer [online] https://link.springer.com/book/10.1007/978-3-662-43902-9 (accessed 5 August 2025).

Veiga, C., Davim, J.P. and Loureiro, A.J.R. (2012) 'Properties and applications of titanium alloys: a brief review', *Rev. Adv. Mater. Sci*., Vol. 32, No. 2, pp.14–34.