
Editorial

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Biographical notes: J. Paulo Davim received his PhD in Mechanical Engineering from the University of Porto in 1997 and the Aggregation from the University of Coimbra in 2005. Between 1986 and 1996, he was a Lecturer in the University of Porto. Currently, he is Aggregate Professor in the Department of Mechanical Engineering of the University of Aveiro and Head of MACTRIB – Machining and Tribology Research Group. He has more 20 years of teaching and research experience in machining, tribology and manufacturing processes. He is the editor of three international journals, guest editor, editorial board member, reviewer and Scientific Advisory for many international journals and conferences. He has also published more than 250 papers in refereed international journals and conferences.

The word ‘machinability’ refers to the relative ease with which a given material (or group the materials) can be machined using appropriate tooling and cutting parameters. Several criteria are used to evaluate the machinability, the most important are

- tool life or tool wear rate
- cutting forces or power consumption
- surface finish
- limiting rate of metal removal
- chip shape.

However, machinability is affected by the properties (mechanical and physical) of the work material, tool material, machine tool, part, fixture, cutting fluid and cutting parameters. For this reason, an improvement of the technical capability to predict the machinability is very important for the modern manufacturing industries. The purpose of this special issue is to present a collection of examples illustrating the state-of-the-art developments of experimental and numerical techniques and its applications to machinability of materials.

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