

Editorial

Experimental and Numerical Investigations in Mechanical Machining of Fibre-Reinforced Composite Materials

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The emergence of fibre-reinforced composites can be regarded as a significant breakthrough in the development era of new materials in human society. This can be seen by their substantial impact on the material distribution in diverse industrial fields due to their superior mechanical/physical properties and excellent structural functionality. To meet the eventual application requirements, machining operations such as turning, milling, and drilling are frequently used to precisely fabricate these fibrous composites. Despite their widespread applications, composite materials are quite difficult to cut due to their anisotropic behaviour and heterogeneous architecture. Particular issues are associated with severe defect formation, rapid tool wear progression, and short tool life, resulting in a large number of composite part rejections. To solve fundamentally the technical issues, experimental and theoretical investigations concerning the composite cutting mechanisms, surface quality issues, and wear control are of vital importance.

The objective of this special issue is to report on the newest studies in the field of various machining processes for fibre-reinforced composites covering a variety of aspects, including the physical modelling of force and heat generation, optimization of process parameters, damage detection, and wear control. High-quality papers were rigorously selected to integrate the present issue that emphasizes the need, interest, and importance of this topic. It is hoped that

the contributions collected in this special issue can provide readers with a good overview of the advances achieved in the machining of fibre-reinforced composite materials. We also wish that the publication of this special issue can motivate more scholars to work in this highly promising and challenging research field.

Conflicts of Interest

The Guest Editors declare that there are no conflicts of interest involved in this special issue.

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