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SIGNIFICANCE OF FINITE ELEMENT METHOD BASED MODELING IN ANALYSING TEMPERATURE GENERATION AND DISTRIBUTION DURING HARD TURNING

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ABSTRACT

Manufacturing Industries play a very key role in the development of any country. Machining forms a very important segment of manufacturing industries and turning has a crucial role to play in machining. Need to machine high strength material and the requirements of specialised industries have resulted in the evolution of hard turning. Improving the efficiency of the turning process and understanding its effects through modeling have always remained an active area of research. The primary objective of this paper is to provide a detailed insight into heat generation process during turning. A review about how different researches have exploited Finite Element Analysis to model the heat generation and distribution is also presented. The paper also elaborates on the commercial tool that has been used by the research community for performing Finite Element Analysis.

KEYWORDS: Machining, Hard Turning, Heat Generation, Finite Element Analysis

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