

Article Abstract

Title:	A new methodology for recognizing features in rotational parts using STEP data exchange standard
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Journal:	<i>International Journal of Engineering, Science and Technology</i> , Vol. 3, No. 6, 2011, pp. 102-115.
Abstract:	Automated feature recognition is considered a critical node for integration of CAD/CAPP/CAM. The CAPP module requires the implementation of a feature recognition procedure, so that decisions relating to steps of process planning activities can be made automatic. STEP is an international standard for geometric and non geometric data transfer between heterogeneous CAD, CAE and CAM systems and it replaces IGES and DXF files. Extracting the necessary information from an exchange file to generate manufacturing parameters becomes an important task. In this paper we present the model of our research effort which is intended to extract the geometric information of rotational parts from STEP file, and utilize this information to recognize the turning features. A generalized Java code has been written to extract the data from STEP file and to recognize the features. The novel approach proposed to extract feature information from STEP files and further integration with STEP-NC file provides as a seamless integration technique of CAD/CAPP/CAM. The approach was tested by several examples for rotational parts.
Keywords:	STEP, Feature Recognition, Rotational parts.