

A Design System for Complex Profiles of Machine Members Using a Synthetic Curve

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Abstract : This paper proposes a development of a CAD/CAM system for complex profiles of various machine members using a synthetic curve i.e. B-spline. Conventional methods in designing and manufacturing of complex profiles are tedious and time consuming. Even programming those on a computer numerical control (CNC) machine can be a difficult job because of the complexity of the profiles. The system developed provides graphical and numerical representation B-spline profile for any given input. In this paper, the system is applicable to represent a cam profile with B-spline and attempt is made to improve the follower motion.

Keywords : plate-cams, cam profile, b-spline, computer numerical control (CNC), computer aided design and computer aided manufacturing (CAD/CAM), R-D-R-D (rise-dwell-return-dwell)

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