Method for Determining the Gear Wheels Profile

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Abstract

In this paper we try to find a better methodology to transform a file obtained from 3D scan (precessional gear wheel), which can be used only as a copy, into a file with functional extension. Transformation will result in surfaces and geometric objects that can be manipulated and compared to each other, with the aim of find deviations between ideal 3D models and the real ones. The methodology is relative simple: the triangular surfaces which form the shell of object should be approximated by flat, cylindrical, conical, etc. surfaces interlinked and filling the empty space between them with material.