Evaluating the cost of poor quality and tolerance-cost curves for Simultaneous Tolerance Synthesis

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ABSTRACT

The growing demand for high quality products has made it necessary to adopt simultaneous engineering techniques in order to develop a Simultaneous Tolerance Synthesis process. To use this process it is necessary to evaluate two types of characteristic curves: the quality cost and the cost-tolerance curve. This paper aims to present some methods to evaluate these curves for the subsequent optimisation process. The quality cost curve is based on the Taguchi quality concept, while the cost-tolerance curve is derived from the study and optimisation of the process plan. A case study of an avionics keyboard is finally proposed to illustrate the proposed method.

