عنوان مقاله:

Developing a Method for Increasing Accuracy and Precision in Measurement System Analysis: A Fuzzy Approach

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خلاصه مقاله:

Measurement systems analysis (MSA) has been applied in different aspect of industrial assessments to evaluate various types of quantitative and qualitative measures. Qualification of a measurement system depends on two important features: accuracy and precision. Since the capability of each quality system is severely related to the capability of its measurement system, the weakness of the two mentioned features can reduce the reliance on the qualitative decisions. Consequently, since in the literature fuzzy MSA is not considered as an independent study, in this paper, a fuzzy method is developed for increasing method accuracy and precision by encountering the impreciseness of some measures of MSA. To do so, bias, capability, and gauge repeatability and reproducibility (GR&R) indices are considered as triangular fuzzy numbers. The application of the proposed method is illustrated through a case study taken from an automotive parts industry. All rights reserved.

کلمات کلیدی:
MSA; Fuzzy numbers; GR&R; Quality techniques

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