

Fuzzy Gauge Capability (Cg and Cgk) through Buckley Approach

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Abstract : Different terms of the statistical process control (SPC) has sketch in the fuzzy environment. However, measurement system analysis (MSA), as a main branch of the SPC, is rarely investigated in fuzzy area. This procedure assesses the suitability of the data to be used in later stages or decisions of the SPC. Therefore, this research focuses on some important measures of MSA and through a new method introduces the measures in fuzzy environment. In this method, which works based on Buckley approach, imprecision and vagueness nature of the real world measurement are considered simultaneously. To do so, fuzzy version of the gauge capability (Cg and Cgk) are introduced. The method is also explained through example clearly.

Keywords : measurement, SPC, MSA, gauge capability (Cg and Cgk)

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