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RESEARCH ARTICLE

On the relationship between process capability indices and the proportion of conformance

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ABSTRACT

The proportion of conformance of a process, i.e. the probability of producing within the specification area, is related to the majority of the most commonly used process capability indices (PCIs). In this article, the relationship of the four most widely used indices, i.e. C_p, C_{pk}, C_{pm} and C_{pmk} to the proportion of conformance is examined in the case of normal processes. Results known in the literature are presented along with several new ones. Various plots, revealing interesting aspects of these relationships are also provided.