

# On the Implementation of the Principal Component Analysis–Based Approach in Measuring Process Capability

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The use of principal component analysis in measuring the capability of a multivariate process is an issue initially considered by Wang and Chen (1998). In this article, we extend their initial idea by proposing new indices that can be used in situations where the specification limits of the multivariate process are unilateral. Moreover, some new indices for multivariate processes are suggested. These indices have been developed so as to take into account the proportion of variance explained by each principal component, thus making the measurement of process capability more effective. Copyright © 2011 John Wiley & Sons, Ltd.

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