

Accepted Manuscript

An implementation of measurement system analysis for assessment of machine and part variations in turning operation

Charnnarong Saikaew

PII: S0263-2241(18)30009-5

DOI: <https://doi.org/10.1016/j.measurement.2018.01.008>

Reference: MEASUR 5183

To appear in: *Measurement*

Received Date: 13 March 2016

Revised Date: 5 October 2017

Accepted Date: 8 January 2018

Please cite this article as: C. Saikaew, An implementation of measurement system analysis for assessment of machine and part variations in turning operation, *Measurement* (2018), doi: <https://doi.org/10.1016/j.measurement.2018.01.008>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



An implementation of measurement system analysis for assessment of machine and part variations in turning operation

Charnnarong Saikaew*

Department of Industrial Engineering, Faculty of Engineering, Khon Kaen University,

Khon Kaen, 40002 Thailand

Tel: +6643-202-097, Fax: +6643-202-097, E-mail: charn_sa@kku.ac.th

ABSTRACT

Measurement system analysis (MSA) is a useful quality tool used for assessing the adequacy of gauge variation in order to ensure the quality of the measurement system and good quality products. This work proposed a procedure for evaluating a measurement system using gauge repeatability and reproducibility (GR&R). The average & range and the analysis of variance (ANOVA) methods were used to assess the performance of three randomly selected mini CNC lathe machines rather than the performance of appraisers by measuring the same characteristics of the same part produced by different machines with the same measuring instrument and the same appraiser. The ANOVA results showed that the part and the interaction between part and machine affected the diameter of machined parts at the significance level of 0.05. The GR&R study indicated that the proposed MSA can effectively be used for machine performance evaluation.

Keywords: Gage R&R; machine performance; diameter; ANOVA; variance components

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات