

THE STUDY OF THE PROBLEM OF SCANNING SPEED ON RESULTS OF MEASUREMENTS OF FORM DEVIATIONS

Authors:

Prof. Krzysztof Stepień¹; Ing. Urszula Kmiecik-Sottysiak¹; dr. Ing. Lenka Cepova²

¹ Kielce University of Technology, Faculty of Mechatronics and Mechanical Engineering

² VSB-Technical University of Ostrava, Faculty of Mechanical Engineering

Abstract:

One of the most universal measuring techniques in contemporary industry is a coordinate measuring technique. This paper focuses on a problem of measurements of form deviations with the use of coordinate measuring machines (CMMs). Nowadays, such measurements are usually carried out using a scanning probe-heads. The paper discusses the problem of measurements of roundness deviations by a scanning probe-head. Authors conducted an experiment aiming at the study of the influence of the number of probing points and the scanning speed on parameters of roundness error. The results were compared to the reference values obtained from the radius change instrument for highly accurate roundness and cylindricity measurements. The paper presents the introduction to the problem, the methodology of the study, the results of the experiment, discussion and final conclusions including the plan of further research.

Keywords:

form deviation; roundness; coordinate measuring technique; CMM; scanning speed;