



THE INFLUENCE OF NANOTECHNOLOGY AND NANOMETROLOGY ON WORKPIECE METROLOGY AND INTERCHANGEABLE MANUFACTURING

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Annotation:

Increases of quality of technical parts and whole products are not to be joined of course exclusively with the increase of accuracy but correlation is given up to a certain extent, particularly if the technical development during the 20th century is taken into consideration. This trend develops presently continuously further on because of the development from microtechnology to nanotechnology, which means particularly special metrologies and production methods for the realization of manufacturing accuracies in the nanometric range.

The importance of nanometrology and nanotechnology in general for scientific research and especially for production engineering is described in this manuscript and particularly the influence on technical development and highprecision manufacturing but also for circumstances of human life is demonstrated. High accuracy measurement technique and metrology must be given a key role in modern production and industrial environment. Essential contributions to increase the quality of products and the productive power of industrial plants can be reached through the aimed application of nanometrology. Today we still find nanometrology preferably only in scientific high technology development and research laboratories but the author explains that in the near future it will be integrated also in quality control departments of modern production plants of the industry of the 21st century.

Keywords: nanometrology, nanotechnology, precision manufacturing, quality management, measurement technique

