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**ABSTRACTS**

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*doi:10.22306/asim.v5i2.47**Received: 11 Feb. 2019**Accepted: 27 Mar. 2019***DYNAMIC MODEL MILLING MACHINE**

(pages 1-6)

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**Keywords:** processing system, milling machine, tool wear, sound trend, predictive model

**Abstract:** The article describes the mathematical modelling results of the dynamics in order to determine the regularity of change in the model milling machine during the cutting tool wear. A close correlation between the sound trend accompanying the metalworking process and the roughness trend of the machined surface is shown. The calculation results serve as the basis for solving the problem of operational resource tool prediction. The tool wear operational forecast allows for the first time in the material processing history to put into practice an effective adaptive control technology of the cutting process, which determines the novelty of the material described in the article.

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*doi:10.22306/asim.v5i2.50**Received: 11 Apr. 2019**Accepted: 15 May 2019***SIMULATION OF ECOLOGICAL INNOVATIONS PERCEPTIONS IN SLOVAKIA**

(pages 7-12)

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**Keywords:** innovation, ecological innovation, Kano model

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ABSTRACTS

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**Abstract:** Ecological innovations are the object of interest in many areas what has subsequently reflected in the fact that the interest of companies in their implementation has increased. Research, development and implementation of eco-innovation is a global phenomenon supported by the policies of most countries as well as the EU. However, not only research and development of innovation is significant, but especially their implementation and adoption should be in the interest of companies. The paper brings the results of the survey in which we have monitored the perception of ecological innovations in different age categories of Slovak respondents. The Kano model is the primary used survey method. The results denote a low level of acceptance of environmental innovations by domestic customers.

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## **A MODEL TO STUDY DYNAMIC EFFECTS OF THE FORMATION OF DEFECTIVE ITEMS IN MANUFACTURING**

(pages 13-20)

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**Keywords:** dynamic simulation, defective items, inventory, operations system, work-in-process

**Abstract:** In this work, a tool is developed to study operational aspects of manufacturing/production processes. Most studies of operations systems are concerned with waiting times, queue lengths, servers' utilization, etc. This work, on the other hand, is concerned with the yield of production/manufacturing processes with assembly operations in intermittent production environments. A novel approach is proposed to study operational effects of processes' imperfectness. Specifically, effects of the formation of defective items. The number of defective items and, hence, the number of conforming items that are formed in each execution of each activity in a process are random variables. The number of units of each component type in each (sub)-assembly is, however, dictated by the assembly ratios. Consequently, the actual numbers may not fit the planed targets or each other. These differences might be small but suffice to generate chaos in the system. A generic model is proposed, which enables to investigate and analyse these effects and evaluate tactics to handle them.

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