
ABSTRACTS

*doi:10.22306/am.v6i1.72**Received: 15 Feb. 2021**Revised: 26 Feb. 2021**Accepted: 08 Mar. 2021***THE DESIGN OF MOVEMENT OF THE ROBOT MODEL IN
STRUCTURED ENVIRONMENT USING MSC ADAMS**

(pages 1-5)

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University of Košice, Letná 9, 042 00 Košice, Slovakia, EU, vojtech.neumann@student.tuke.sk**Keywords:** computer simulation, manipulator, kinematic analysis, trajectory, matrix method**Abstract:** In this work, the issue of kinematic analysis of the open kinematic chain of an industrial robot is discussed. The aim of the work lies in the kinematic analysis of the robot and the display of kinematic quantities in the work process. Transformation matrices of coordinate systems of individual members are determined for the solution by the matrix method. The direct method of kinematics using the MSC Adams View program is solved. The result is a graphical representation of the kinematic variables of the mechanical system of the end point of the effector and trajectory when moving in its working space.

*doi:10.22306/am.v6i1.73**Received: 27 Feb. 2021**Revised: 10 Mar. 2021**Accepted: 19 Mar. 2021***MODELLING OF DYNAMIC SYSTEMS IN STATE SPACE**

(pages 7-10)

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Abstract: This paper deals with the solution of dynamical systems in state space. Complicated differential equations are converted into a simpler form by using state variables in vector matrix. It is used for multi-input and multi-output systems, and the solution is performed using matrix notation. It describes systems with complex internal structure. It allows state models to be manipulated using matrix calculus. Systems described by a state model are characterized by the fact that it is easier to design state control for them.

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DESIGN OF AN AUTOMATED SYSTEM FOR MEASURING CAR BODIES

(pages 11-20)

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Keywords: automation, measurement system, 3D scanners

Abstract: The work presents and describes selected measurement methods of bodywork geometry. The principle of operation of 3D scanners has been described together with their application in the implementation of vision measurement systems in the automotive industry. The paper also presents methods used to automate measurements in diagnostics and vehicle repair processes. In addition, the work presents the concept of a measurement system which combines the ideas of vision measurements and mechanical repair devices.
