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**ABSTRACTS**

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*doi:10.22306/asim.v5i1.46**Received: 11 Feb. 2019**Accepted: 12 Mar. 2019***MODELLING OF THE STRUCTURE AND THE REQUIRED LEVEL OF PERFORMANCE PROPERTIES OF A POLYTETRAFLUOROETHYLENE COMPOSITES FOR SEALING**

(pages 1-7)

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**Keywords:** simulation, polytetrafluoroethylene, sealing, tensile strength**Abstract:** The article describes the mathematical modelling results of the dynamics in order to determine the regularity. Further development of numerical approaches to taking into account the geometric nonlinearity of composite material on the basis of polytetrafluoroethylene with the use of the finite element method for studying the stress-strain state of the sealing elements line. Simulation were carried out under combined axial and surface radial loads. It is determined that the most "dangerous" from the point of view of the strength of the design are areas around square openings, docking zones of spherical, conical and cylindrical parts.

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*doi:10.22306/asim.v5i1.49**Received: 25 Mar. 2019**Accepted: 12 Apr. 2019***SIGNIFICANCE OF SIMULATION AS A FUTURE TREND: WORKPLACE STUDY USING SIMULATION SOFTWARE WITNESS**

(pages 9-12)

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**Keywords:** manufacturing industry, simulation model, important production factors, production research

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**Abstract:** Globalization in manufacturing industry, aiming to reach the highest level of productivity and competitiveness oblige companies to innovate their products, technologies, processes. Using simulation and modelling to solve production problems is one of the research topics and priorities for future actions in manufacturing industry. After the simulation model is built, validated and verified, many scenarios can be tested before applying changes in a real performance, avoiding unnecessary costs if the change would have a failing effect. This article is focused on a simulation method and its application on a case study applied in manufactory.

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