

REPORT

on the scientific and scientific-organizational activities of the Department of Computational Mathematics and Informatics for the first half of 2021 of the Institute of Mathematics and Mechanics of ANAS

About scientific activity

During the reporting period in the Department of Computational Mathematics and Informatics, a scientific research was carried out on the topic "Development of a method for visual control of a dynamic nature of industrial processes and the creation of appropriate software" and 3 works were completed.

The department has 10 employees. 2 of them are doctors of philosophy, 5 are software engineers, and 3 are laboratory assistants. The department has two doctoral students.

In the reporting period, the department employees published 1 article (WOS Core Collection: Emerging Sources Citation Index. IF 0.29), as well as materials of 2 conference reports.

As a priority direction of research work carried out at the department, it is necessary to note the work on managing the process of isobutane dehydrogenation, an important link in the petrochemical industry of the republic, which is based on the introduction of the phase trajectory method. Currently, a method is being developed for solving the problem of automatic estimation of physically unmeasurable coordinates, taking into account the multiplicity of stationary states of the model in the phase space. Since the beginning of the year, the following issues have been resolved:

-Based on automatic stabilization of state variables, a mechanism for describing a dynamic model in a three-dimensional phase space has been developed.

The results were published in a highly rated journal, with an Impact Factor in the WOS Core Collection. (GA Nagiev, NA Guliyeva. Indirect estimation of state variables of dynamic systems with multiple equilibrium positions based on computer simulation using the example of industrial reaction-regeneration systems. Measurement Techniques, WOS Core Collection: Emerging Sources Citation Index. IF 0.29) ...

Master D.M. Shafizadeh presented her thesis at the republican online conference of doctoral students and young researchers on the topic "Information, Science, Technologies and Prospects of Universities", which was held on December 18, 2020 at Lankaran State University. She also presented the thesis at the XXI Republican Scientific Conference of Masters, held at Sumgait State University on May 11-12, 2021.

In the period from 16.02.2021 to 24.05.2021, on all days of the week, 27 students of the Faculty of Applied Mathematics of ASOIU underwent an online research and production internship under the bachelor's program and their activities were supervised by our employees.

Head of department:

Doctor of Philosophy in Engineering,

Associate Professor

Hasan Nagiyev