

Professor Shamsaddin Mutallimov — 80



Doctor of physical-mathematical sciences, professor Shamsaddin Mutallim oğlu Mutallimov was born on May 10, 1941 in Ag Siyazan village. In 1958, he graduated from J. Jabbarly secondary school in Siyazan city.

After graduating from secondary school, in 1959 he joined mechanics-mathematics faculty of Azerbaijan State University (now –Baku State University) and in January of 1965 graduated from this faculty (education period was 5,5 years). During the study he has taken active participation in social and sport life of the faculty, fulfilled the norm of a first-class wrestler and at the same time he was an active member of the Student Scientific Society.

While graduating from the University by the decision of the scientific council of the faculty he was recommended to enter the graduate school and to this end was sent to the Mathematics and Mechanics Scientific Research Institute of Azerbaijan Academy of Sciences, where he worked until December, 1965 as a senior laboratory assistant at the “Dynamical strength” laboratory.

In 1965 Sh. Mutallimov joins the graduate school and is sent to a business trip to “Wave and gas dynamics” chair of Mechanics-Mathematics faculty of Moscow State University.

In December of 1969 he defends his PhD dissertation, in January of 1988 his doctoral dissertation “Some problems of wave dynamics in flexible connections on impact with a solid body”.

In 1982 Sh. Mutallimov was promoted to the rank of an associate professor, in 1992 to the rank of a professor.

To determine stress state of constructions made of flexible materials and working under intensive short-term dynamical loading in numerous fields of modern technology, is of great importance. And if impact happens as a result of collision of bodies moving with great speed, this makes the problem even more urgent.

Collision of objects with various geometrical and physical features at great speed, on the whole is reduced to the solution of wave dynamics problems of deformable solid body mechanics in these objects.

To construct a mathematical model for each specific case of this problems and to solve it is a difficult issue. On the other hand, it is very necessary to construct analytic solution of such problems because analytic solution of this problem enables to estimate the features of happened and to be occurred physical process. On the other hand, analytic solution can be considered as a standard for estimating the solution of various similar processes. Flexible constructions (thread, cable, membrane) mathematical simulation of physical process created during impact by a solid body and solution of the problem was created in the middle of the XX century by acad. Khalil Rahmatullin.

However, some scientific contradictions existing in this field, especially emergence of contradiction of boundary conditions in wave front in physical process depending on mechanical features of the construction, geometrical form of impacting body speed of impacting body, friction factor between the surfaces of impacted and impacting bodies, the solutions of destruction character of the impacted construction and giving the possible destruction scheme and other problems still remain open.

Since these processes occur during short period, technical solution of the problem by the experience is impossible. Therefore, in this work the analytic solution is preferred. Taking into account main parameters characterizing physical process in theory of impact on flexible constructions by a solid body, prof. Sh. Mutallimov revealed existence of different movement modes in strong discon-

tinuity wave front and gave a mathematical model of these modes. For the first time in references, he has given classification of boundary conditions in sharp wave front.

Sh. Mutallimov first has defined physical state of a material destructed during impact on a plane membrane, liner thread by a solid body (a cone, groove, (sharp or blunt groove)) and physical state of the material after destruction. The problems for supersonic, subsonic movement modes were analytically solved.

For the first time, in the supersonic movement modes behind the sharp wave front the “wrinkling” of a flexible construction (elastic thread, elastic membrane) was revealed and thus, the distance that is contradictory in references was eliminated.

The results obtained in wave dynamics were reflected in his monograph and scientific papers. Sh. Mutallimov has carried out interesting researches in the field of mathematical simulation of economical problems:

1. He has given a mathematical model of increase in produced products in the objects (plant, factory, production enterprises) with economic interactions.

2. A mathematical model for determining the number of peoples living in regions consisting of different nations. The solution of both problems is reduced to the solution of the system of normal ordinary differential equations with a constant coefficient.

In 1968 Sh. Mutallimov has worked as a junior research associate, then a senior research associate at the “Strength” department of IMM and a head of “High speed processes” laboratory at the special construction office. In February of 1979 Sh. Mutallimov has worked at the chair of “Higher mathematics” of the Ganja branch of Azerbaijan Polytechnical Institute as a senior lecturer, from 1982 as an associate professor.

In 1989-1990 he has worked as a dean of “Mechanics” faculty of Azerbaijan Technological Institute, in 1990-1992 as a head of “Applied mathematics” chair.

In 1992-1993 he has been Rector of Azerbaijan Technological Institute. In addition to working at the Azerbaijan Technological Institute, in 2006-2008 he has worked as a part-time professor at “Higher mathematics” chair of Mingechevir Polytechnical Institute.

For his merits Sh. Mutallimov was awarded an honorary diploma of the Ministry of Education of the Republic of Azerbaijan, Azerbaijan Technological Institute and honorary diploma of the Ministry of Education of the occasion of 50 years jubilee (1970-2020) of University.

Being the author of over 80 scientific papers, some textbooks, methodical instructions, Sh. Mutallimov at present is a consultant professor of the chair of “Universal and applied mathematics” of Azerbaijan Technological University.

He is in favor of qualitative development of education system in form and contents He considers education and science a backbone of the nation.

The known scientist, doctor of physical-mathematical sciences Sh. Mutallimov possesses simple, modest, noble human qualities, unusual scientific erudition and organization ability and has earned great respect of the body of Azerbaijan Technological University. Prominent philosopher Socrates very correctly noted that it is possible to value everything in the world, but teacher’s work can never be valued. This wonderful man with unexhausted energy is also a careful family head.

We wish to Shamsaddin Mutallimov a true intellectual whose personality we hold in great esteem, a sound health and new successes in all his works.

Academician, prof. Magomed Mekhtiyev

Corr. member of ANAS, prof. Misir Mardanov

Doctor of physical-mathematical sciences, prof. Gabil Aliyev