

ALIYEV AKBAR BAYRAM OGLU
(to 50th anniversary)



Doctor of physical and mathematical sciences, professor Aliyev Akbar Bayram oglu is 50 years. A.B. Aliyev was born on 4th of January 1950 in Garajalar village of Gardaban district in Georgian. After finish school he entered the Mechanical-Mathematical Department of Azerbaijan State University and graduated from the university in 1972 with a distinction. After graduating from University he entered the aspirantura (postgraduate) at the Institute of Mathematics and Mechanics (IMM) of Academy of sciences of Azerbaijan SSR, where he defended in 1976 the candidate dissertation on the subject "Behaviour of solutions of evolutionary equations and hyperbolic equations in partial derivatives". In 1975-1980 A.B. Aliyev worked as a scientific worker at IMM of AS of Azerbaijan SSR.

In 1981 he began pedagogical activity at Azerbaijan Politechnical Institute, there he was sent to Moscow for two years (1985/86-1986/87) on mission to finish work at the doctor dissertation. Under supervisor of member-correspondent of AS of SSSR S.R. Pokhojajev he prepared in Moscow his doctor dissertation on the subject: "Global solved problems for the quasilinear hyperbolic operators" which he defended in 1988 at the Tbilisi Mathematical Institute.

Since 1989 up to the present day he is the head of caphedra "Mathematics 2" and he is also a senior research worker at IMM of AS of Azerbaijan.

A.B. Aliyev had scientific activity being a student and was an active participant at the seminars of academicians H.G. Gasimov, F.G. Magsudov and also doctor of ph.-math. sciences, prof. SY. Yagubov. The first scientific works by A.B. Aliyev are related to the quality analysis of the operator-differential equations. Being a fourth year student he investigated the problems on the limitedness and almost periodicity of the differential equations in Banach space. These results were on the base of his candidate dissertation. Particularly he investigated the asymptotic behavior of the solutions of the abstract hyperbolic equations of the second order with weak dissipation. These operators are characteristic with that though eigen numbers are in the left halfplane but they are not separated from the imaginary axis. He worked at these problems also further with his pupils. Particularly, for the quasi-linear hyperbolic equations of the second order with antidissipation in the domain and with dissipation on the part of the bound they investigated existence of the compact minimal attractor. For the linear case they found the effect that for sufficient big values of antidissipation on the bound does not influence on

the quality property of the solutions at all and in this case the energy of the system becomes non-limited.

It is known that Cauchy problem for the quasi-linear hyperbolic equation has not any smooth global solution.

In 70-th and 80-th the main mathematics centers of the world were interested in the problems of choose of the global solved problems for the quasi-linear equations of hyperbolic type. Let remind here the problem stated by J.-L. Lions "Is it possible to solve globally in the suitable weak sense the quasi-linear hyperbolic equations" with the natural boundary-value and initial conditions. The different approaches were in this directions. One of the approaches was the attempt to solve the corresponding one-side problem for the quasi-linear hyperbolic operators. A.B. Aliyev developed systematically the theories of one-side problems for the quasi-linear hyperbolic operators. He proved solvability "in the whole" for wide class of one-side problems for the quasi-linear hyperbolic operators with the functional and also the local non-linearities. With this purpose first he developed the theory of one side problems for the non-monotone operators in the functional spaces. At the same time A.B. Aliyev also worked at selection of natural boundary-value conditions for which the corresponding mixed problem for the quasi-linear hyperbolic equations has the smooth global solution. With this purpose he developed T. Kato's Theory for the abstract quasi-linear equations in Banach space with Volterra non-linearity.

Using these abstract results, particularly to the investigation of the mixed problem for wide class of the quasi-linear hyperbolic equations he proved the existence of the smooth global solution. For the quasi-linear hyperbolic equations with the functional (particularly with integral) non-linearities he proved the solvability "in the whole" of the corresponding mixed problem. He has developed the analogous theory also for the systems of Theory of Elasticity and also for the quasi-linear hyperbolic equations of high order for last years.

A.B. Aliyev worked also at the applied problems of Mathematics. Particularly, he investigated jointly with the group of scientists occupied in this field the problems of propagation of non-linear waves in anisotropy mediums.

In addition to the scientific activity A.B. Aliyev carries out also large work by preparing scientific and engineer cadres. He works productively in the field of differential equations and he is the author of more than 60 scientific works.

Series of important results relating to the theory of solvability of the quasi-linear hyperbolic equations and also to the quality analysis of linear and quasi-linear hyperbolic equations were obtained by A.B. Aliyev and his pupils. He represented Azerbaijan in different scientific International conferences.

At the same time A.B. Aliyev has active social-scientific activity being a member of some scientific and scientists colloques.

We congratulate the talented mathematician A.B. Aliyev with jubilee, wish him long creative years, strong health and all success.

F.G. Maksudov, M.G. Gasymov, A.D. Gadjiev,
A.A. Novruzov, B.A. Iskenderov, I.T. Mamedov