Academician A.D. Gadjiev

(to the 65th anniversary)

Academician secretary of physical- mathematical and technical sciences of department of NAS of Azerbaijan, academician of NASA, doctor of physico mathematical sciences, professor Akif Djafar oglu Gadjiev was born on December 8, 1937 in Baku.

In 1960 he has graduated from mechanics-mathematics faculty of Azerbaijan State University and was directed to work to the Institute of mathematics and mechanics of Azerbaijan Academy of Sciences. In this institute he has worked as a junior research associate (1960-1961), scientific secretary (1961-1966), senior research associate (1966-1978), head of department (beginning from 1978).

In 1964 he defended his candidate dissertation "Some families of operators as an approximation apparatus " in Azerbaijan State University, and in 1982- his thesis for a Doctor's degree "Investigations of convolution type multivariate operators" in Specialized Scientific Council of V.A. Steklov mathematical institute of USSR AS. Professor scientific title by the speciality "Mathematical analysis" was conferred upon him in 1985.

In 1989 Prof. A.D. Gadjiev was elected a corresponding member and in June 30, 2001-academician of Azerbaijan Academy of Sciences.

Beginning from July, 2001 he works as an academician Secretary of physical mathematical and technical sciences department.

A.D. Gadjiev is the known specialist in the field of functions theory. His principle investigations are devoted to the theory of linear operators and harmonic analysis in functional spaces.

His first scientific results relate to the investigation of asymptotic values of approximation of functions by linear positive operators.

The approximation of Lebesque-Stilyes type integral operators by integrable functions, the convergence of order of the family of two-parameter integral operators in the term of continuity modulus of approximate functions was studied by A.D. Gadjiev.

The conditions of convergence of sequence of linear positive operators in continuous, one and multi variable functions space in normalized, weight unrestricted sets were studied. We have to note that in the considered cases the analogy of V.P. Korovkin's classic theorem was proved.

A.D. Gadjiev invariant the cone with non-negative Fourier coefficients acting in functional space being regular in circle, and proved approximation theorems.

In his works in collaboration with academician J.I. Ibrahimov a general method for performing the sequence of convergent linear positive operators in continuous function spaces was suggested and in mathematical literature the operators performed by them are accepted as Gadjiev Ibrahimov operators. He has also studied together with his followers new approximation properties of classic Bernstein-Khlodovsky multivarieties and their generalizations in weight spaces. A.D. Gadjiev's further investigation direction was the theory of linear operators in entire functions space. One of his great merits in the functions theory is a new approach to the estimation of differential operators in multivariable entire functions class based on the deep relation of the theory of entire functions to convex analysis.

A.D. Gadjiev first obtained Berntein type inequalities described by the fine characteristics as an index of entire functions being a support function of convex domain with bounded right hand side. This method made possible to get important, exact results in another multivariable, purtial case S.M. Nikolsky type inequalities in entire functions class. Besides, the relations between entire functions and convex domains made possible to use the orthogonalization of multivariable exponents in solving problem of convergence of discrete convolution operators and in obtaining asymptotic formulae for the trace of matrix of inverse operator.

Using this idea acad. A.D. Gadjiev together with his follower I.A. Aliyev showed the possibility of approximation of entire function by exponential sums whose exponent is contained in indicator diagram, and estimated the approximation rate.

He also investigated some important problems for multivariete singular integrals theory.

He found complete solution of description of differential smoothness proper-

ties of symbols and the relations of these operators with kernels in terms of functional spaces of Bessel potentials in sphere.

Commenting the relations between properties kernel and symbols in terms of O.V. Besov spaces A.D. Gadjiev together with his follower X.R. Rustamov later developed these results.

A.D. Gadjiev and I.A. Aliyev defined two-weight estimations for multivariare singular operators possessing a kernel dependent on shift operators.

Acad. A.D. Gadjiev's investigations in harmonic analysis are mainly devoted to the problems of Fourier multiplicators.

As is known one of difficult problems of harmonic analysis is the problem of oscillated multiplicators of spheric expansions that can't be described by multiplicators.

In the field of potential theory A.D. Gadjiev and his follower I.A. Aliyev introduced and studied Riesz and Bessel potentials generated by generalized shift operator. They introduced and studied parabolic potentials generated by generalized shift operators.

A.D. Gadjiev searched the characteristic properties of generalized operators, proved for them analogy of Hardy-Liltwood-Sobolev theorems, studied the existence and continuity problems for the combinations of anisotropic Riesz potentials.

In 2002 in one of papers published by A.D. Gadjiev the problems of statistic approximations of functions by polynomials and linear positive operators were studied and it was proved that there are multivaririeties statistically approximating continuous function in a finite segment, but it doesn't approximate it regularly.

25 candidate dissertations were defended under acad. A.D. Gadjiev's guidance and 2 theses for a Doctor's degree were represented for defense.

Besides, in 1993-2000 acad. A.D. Gadjiev gave lectures in special courses of Ankara University of Turkey Republic, and supervising there scientific research works he made a valuable contribution to preparing scientific personnel for fraternal republic.

At present A.D. Gadjiev is a chairman of Scientific Council on doctoral dissertations at the Institute of mathematics and mechanics of ANAS.

His more than 80 scientific papers were published in authoritative journals of USA, Russia, Italy, Poland, Romania, Turkey and our republic. He is an author of 3 monographs.

Acad. A.D. Gadjiev is very unpretentious man, fine pedagogue, outstanding scientist, sincere friend and poetry-lower.

We congratulate academician A.D. Gadjiev on the occasion of his 65th birthday, wish him a sound health, long life, good fortune, and new successes in his honorable work in the name of science and education.

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