Alexander Abrosimov

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On June 20, 2011, the outstanding mathematician and teacherAlexander V. Abrosimov passed away in the city of Nizhny Novgorod in Russia, due to a serious illness.

Alexander Abrosimov was born on November 16, 1948, in the city of Kuibyshev (now Samara). In 1971 he graduated from the Department of Mechanics and Mathematics of the State University of Gorky (now Lobachevsky State University of Nizhny Novgorod).

Dr. Abrosimov undertook graduate studies in the Department of Mechanics and Mathematics of Lomonosov Moscow State University under the supervision of Professor Boris Shabat. In 1984 he defended his Ph.D. dissertation "Complex differential systems and the tangential Cauchy-Riemann equations". Dr. Abrosimov was associate professor in the theory of functions subdepartment in the Department of Mechanics and Mathematics and Invited Lecturer in the Advanced School of General and Applied Physics (the base department of the Institute of Applied Physics and the Institute for Physics of Microstructures of the Russian Academy of Sciences).

Beginning with his first works in 1971–73, Abrosimov studied overdetermined systems of partial differential equations, where he successfully applied an original approach which he developed.

A bright mathematical work, "On locally biholomorphic equivalence of smooth hypersurfaces in C^2", was devoted to an explicit procedure enabling one to decide whether two given smooth real hypersurfaces are locally *CR*-diffeomorphic.

Subsequently, Abrosimov applied his original technique to describe *CR*-automorphisms of real quadrics of higher codimension. In this direction, he obtained
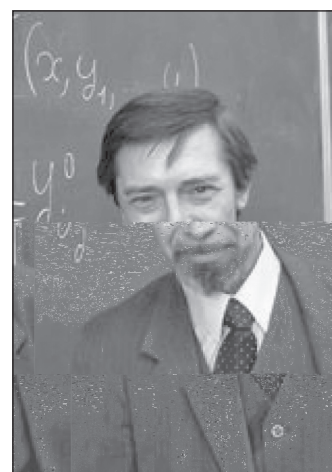
Photograph by Ivan Remizov.

Alexander V. Abrosimov

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important results and elaborated methods nowadays well known to *CR*-geometry specialists.

Firstly, Abrosimov proved that holomorphic automorphisms of a quadric of codimension two are furnished by birational transformations of degree two.

Secondly, he convincingly demonstrated the power of the machinery of differential algebra in *CR*-geometry. In particular, he proved that, under mild conditions, the stabilizer of a point in the group of automorphisms of a quadric in C^n is a linear group.

Thirdly, he was among the first researchers to look into a class of *CR*-manifolds of codimension one. To date, the class has remained a focus of active attention.

Overall, Alexander Abrosimov published more than twenty-five scientific works on complex analysis, including the fundamental paper "A description of locally biholomorphic automorphisms of standard quadrics of codimension two". Some of the works of Abrosimov in *CR*-geometry and adjacent fields in complex analysis are deemed pioneering.

Abrosimov was a brilliant teacher and lecturer; he enjoyed igniting the fire in students and inspiring them to learn and develop mathematics. He passed away, but his spirit of optimism and belief in cognizance of the world are alive in his disciples and will live on for years to come.

You are welcome to visit the Wiki page about A. V. Abrosimov: `http://en.wikipedia.org/wiki/Alexander_Abrosimov`.

Selected papers of Dr. A. V. Abrosimov

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