

Raphiel Kapanadze

This year Raphiel Kapanadze, a remarkable Georgian mathematician would have been 60. He have made an appreciable contribution to investigation of boundary value problems of the elasticity theory and related integral equations.

Raphiel Kapanadze was born on January 21, 1941 in Khreiti, a village in Georgia. There he left the secondary school and in 1958 entered the faculty of Mechanics and Mathematics of Tbilisi State University. After graduating from the university he became a post-graduate student at A. Razmadze Mathematical Institute of Georgian Academy of Sciences. In 1968 he defended his Candidate Thesis.

In 1966–1981 R. Kapanadze worked at Institute of Applied Mathematics of Tbilisi State University. In 1981 he moved to A. Razmadze Mathematical Institute where he filled the positions of Senior Research Fellow (in 1981–1989) and Leading Research Fellow (1989–1994). From 1994 up to his demise on April 7, 1996 he was Head of Department of Continuous Media Mechanics of the institute.

First works of R. Kapanadze were devoted to investigation of singular integral operators (SIO). In particular, he established conditions ensuring boundedness and compactness of SIO in some functional spaces.

Later the scientific interests of R. Kapanadze concentrated on investigation of boundary value problems of the elasticity theory. It should be noted that he was among the first who began to study boundary value problems of statics, oscillation and dynamics for anisotropic homogenous elastic bodies using the methods of potential and singular integral equations.

In his last works R. Kapanadze investigated SIO in compact domains and on open manifolds. He proved that under certain conditions imposed on the characteristic function, the operator defined in the half-space is bounded in weighted Hölder spaces. Based on the established by himself theorem on factorization of strictly elliptic matrix-functions he proved Fredholm property and smoothness of solutions for systems of singular integral equations defined in compact n -dimensional domains with Liapunov boundary in the case where the symbol of the equation is either odd or strictly elliptic. The untimely decease of the scientist prevented him from continuing the research in this field.

The 60-th anniversary of R. Kapanadze gives us one more occasion to remember the excellent scientist and person. He left kind memories in the hearts of his friends and colleagues.

T. BUCHUKURI

LIST OF MAIN PUBLICATIONS OF R. KAPANADZE

1. Spaces, invariant with respect to a singular integral transformation. (Russian) *Trudy Tbiliss. Mat. Inst. Razmadze* **32**(1967), 164–170.
2. Approximation of continuous functions by spherical polynomials. (Russian) *Soobshch. Akad. Nauk Gruz. SSR* **45**(1967), 21–26.
3. On some properties of singular operators in normalized spaces. (Russian) *Trudy Tbiliss. Univ. Mat. Mekh. Astron.* **129**(1968), IV, 17–26.
4. The complete continuity of a certain integral operator. (Russian) *Trudy Inst. Prikl. Mat. im. I. N. Vekua* **3**(1972), 109–114.
5. Some boundary value problems of the dynamics of the moment theory of elasticity (with R. Chichinadze). (Russian) *In: Publications on Problems of Continuum Mechanics.* (Russian) *Izdat. Tbilis. Univ., Tbilisi*, 1976. 96 pp.
6. On boundary problems of the theory of elasticity for anisotropic homogeneous media. (Russian) *Soobshch. Akad. Nauk Gruz. SSR* **88**(1977), No. 2, 305–308.
7. On the boundary problems of dynamics of the theory of elasticity for anisotropic homogeneous media. (Russian) *Soobshch. Akad. Nauk Gruz. SSR* **90**(1978), No. 1, 41–44.
8. On some properties of integral operators. (Russian) *Trudy Inst. Prikl. Mat. Im. I. N. Vekua* **7**(1980), 84–93.
9. On integral operators on manifolds without boundary and some of their applications. (Russian) *Soobshch. Akad. Nauk Gruz. SSR* **107**(1982), 261–264.
10. Investigation of boundary value problems of the elasticity theory for anisotropic media by potential methods. I. (Russian) *Trudy Tbiliss. Mat. Inst. Razmadze* **87**(1987), 82–113.
11. Singular integral operators on manifolds with a boundary. *Georgian Math. J.* **1**(1994), No. 4, 377–393.
12. Factorization of matrix-functions and regularization of singular integral operators on manifolds with boundary. *Mem. Differential Equations Math. Phys.* **2**(1994), 3–40.