

DOITCHIN DOITCHINOV

(1926 – 1996)

Bibliographical data

Originally, this volume was designed to be published in connection with the seventieth birthday of Professor Doitchin Bogdanov Doitchinov, the person who started regular readings in General Topology for Bulgarian students in the early sixties and greatly influenced the development of this subject in Bulgaria. Unfortunately, short before becoming 70, his health went down and on 29.11.1996, after a severe heart attack, he passed away. Missing him are his wife, his two sons, his former students in Topology and Analysis and many colleagues in Bulgaria and all over the world. This volume partially reflects the strong desire to pay tribute to his role in the Bulgarian mathematical life.

Professor Doitchinov was born in Sofia on December 6-th, 1926. His parents were school teachers. He completed his secondary school education in 1945 and in 1951 graduated from the University of Sofia. What was rather unusual for those times, immediately after the graduation from the University of Sofia D. Doitchinov was invited to become Assistant Professor at the same University with the subdivision (Chair) of Calculus which was then led by Professor Yaroslav Tagamlitzki. In 1959 he got the chance to specialize in General Topology with Yurii Michailovitch Smirnov in the Mechanics-Mathematics Faculty of Moscow State University. In 1961 he obtained the scientific degree “candidate of sciences” which was the eastern equivalent of Ph.D. In 1966 D. Doitchinov specialized in Paris with the group of Prof. G. Choquet and in 1983 he defended the second scientific degree “Doctor of Sciences” in Sofia.

The majority of the scientific papers written by Doitchinov are in the field of Topology. In the papers connected with his Ph.D. thesis he gave conditions for the uniform embedding of metric spaces into Euclidean ones. As shown by him the classical theorems for homeomorphic embedding cannot be automatically transferred to the uniform case which turned out to be much more complex.

Another field of research Doitchinov was active in was the theory of the supertopological spaces which appeared with Doitchinov in 1964 as an attempt to create a unified approach to the three major topological structures - topological spaces, uniform spaces and proximity spaces. Similar attempts were undertaken by other mathematicians as well. In 1960 Á. Császár introduced what is now known as “sintopogenic structure”. In 1971 the “nearness structures” of H. Herrlich appeared. Other approaches are also possible but the supertopological spaces of Doitchinov enjoy intrinsic simplicity and have classical flavor. His approach revives the “neighborhood way” of introducing the notion “topological

space” and has the advantage to be easily applied to solving other mathematical problems. For instance, by means of this method, a full structural description was given to locally compact extensions of a class of topological space.

Uniform shape theory is another area where Doitchinov applied his affinity to creating basic theories and his ability to shed light on whole fields. His concept for a “uniform shape” of a metric space not only does the job but also satisfies the expectations how a notion of “uniform type” should look like. Notable is also the notion “relative shape” of an arbitrary topological space (shape with respect to a given class of topological spaces).

The important concept of completeness also attracted the attention of Doitchinov. A very satisfying theory was created by him concerning completion of quasi-metric and quasi-uniform spaces. The notion “quiet-space” introduced by him in this connection attracted the attention of other researchers as well.

The list of research interests of Doitchinov would be very incomplete if the “minimal groups” are not mentioned. He got involved with this topic during his visit to Paris in 1966. The results of Doitchinov in this area sparked considerable interest among Bulgarian mathematicians and were a departure point for some investigations by other mathematicians as well.

Doitchin Doitchinov was an outstanding teacher and lecturer. The students admired him for the clarity of exposition and for the friendly attitude. He has authored two text books in Analysis which are widely used in Bulgaria. His course in modern General Topology (given in the early 60-ties) influenced many Bulgarian mathematicians and created the soil for the future development of this area in Bulgaria.

Besides these activities, during his life, Doitchinov had administrative duties which reflected his academic rank. In 1963 he was elected Associate Professor in General and Applied Mathematics. At the same year, for the first time, the Faculty of Mathematics became independent unit of the University of Sofia. Formerly it existed in the frame of the Physics-Mathematics Faculty of the same University. The first dean of the Faculty was Professor Alipi Mateev. Doitchin Doitchinov was elected a vice-dean and served in this capacity until 1968 when he was elected a dean of the same faculty for 2 years. From 1971 till 1977 Doitchinov was a deputy director of the Institute of Mathematics of the Bulgarian Academy of Sciences. In 1977 he was elected a Professor in the Faculty of Mathematics and Mechanics of the University of Sofia. In 1971 the Institute of Mathematics of the Bulgarian Academy of Sciences and the Faculty of Mathematics of the Sofia University merged into one unit called United Center for Mathematics and Mechanics. It existed till 1987. All over those years Doitchinov was chairing the “Topology” sector of this United Center. After that, till his retirement, he was chairing the Complex Analysis and Topology unit of Sofia University.