

V.P. TSESSEVICH - A WAY IN SCIENCE

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ABSTRACT. The biography of Vladimir Platonovich Tsessevich, one of the most prominent variable star researches, is briefly presented. The opening talk at the memorial conference "Variable Stars" (Odessa, September 1-5, 1997) devoted to the 90-th anniversary of the birth of V.P.Tsessevich.

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lia: V.P.Tsessevich

Vladimir Platonovich Tsessevich is one among the most prominent researchers of variable stars of the 20-th century, who studied a huge amount of variable stars and collected one of the largest databases of observations of these objects.

He was born on October 11, 1907 in Kiev in the family of widely known opera singer Platon Ivanovich Tsessevich and his spouse Elisaveta Alexandrovna, the teacher of music. The father was a very picturesque figure and his many features were transferred to the son. However, soon the family has broken up. All remaining life the mother of V.P.Tsessevich lived together with the son, dividing with him unfortunes and successes.

Being 15 years old, V.P.Tsessevich became a student of the Petrograd University, since 1921 being engaged into observations of variable stars in a Society of "world knowledge" amateurs. At this time, the country was in a ruin and hunger, and it was necessary not only to learn, but also to earn on life. From this times began the teaching life of V.P.Tsessevich which lasted till his death in 1983. However, his scientific activity was even more active. He observed variable stars in all astronomical

observatories and societies of the Petrograd-Leningrad city. Having finished in 1927 the university education, V.P.Tsessevich already had 65 published scientific works. First ten of them have been printed in a respectable foreign magazine "Astronomische Nachrichten", when to the author was only 17 years old. The first love of V.P.Tsessevich were the eclipsing variable stars, on which he was the largest expert both in photometry and theoretical research.

It is no wonder, that after finishing the University, V.P.Tsessevich has become a PhD student under the supervision of G.A.Tikhov, who at that time was the recognized expert on photometry. At this time, in his publications there are researches of long-periodic and short-periodic cepheids, mira-type stars and other types of variable stars. Appeared the works on the theory of cepheids, on photometry of comets and asteroids, on the research of the mass ratio of eclipsing binary stars. He finished the PhD studentship in 1931, and began to teach in some of high schools of the Leningrad city. However, the scientific interests and aquired earlier reliance on more fruitful observations of variable stars in the southern regions of the country (resulted on his numerous annual summer trips for observation in Odessa), have resulted that in 1933 V.P.Tsessevich was sent to Tadjikistan and became the director of the Tadjik astronomical observatory in Stalinalbad and worked at this position in 1934-1937 years.

To the beginning of his directorship in Stalinalbad, V.P.Tsessevich had more than 130 published works devoted to research of different types of eclipsing and physically variable stars, study of the brightness variations of asteroids.

He already had, despite of rather young age, the authority of the recognized scientist and manager. It is no wonder, that Tadjik astronomical observatory at once became the one of the centres of research of variable stars.

At this time, the wide experience of observations of eclipsing variable stars is realized and there is a necessity to pay attention to perfection of the theory of determination of their orbital elements. V.P.Tsessevich begins calculations of the advanced tables of photometric phases. This work continued in Leningrad, where V.P.Tsessevich had moved, by leaving a position of the director of the Stalinabad astronomical observatory (nowadays the Institute of astrophysics of the Academy of Sciences of Tadjikistan). The results of calculations of the tables of photometric phases of eclipsing variable stars were included in his doctor's dissertation defended at the Kazan University in 1944, and in the third volume of the collective monography "Variable stars", issued in 1947.

The next stage of scientific creativity of V.P.Tsessevich is connected to the Odessa University. He was the head of the Astronomy Chair and the director of the Astronomical Observatory since autumn 1944 till October, 1983. At this time, V.P.Tsessevich was a doctor of sciences and Professor, one of the most outstanding scientists in astronomy, with a reputation of the largest researcher of variable stars. He had more than 200 scientific publications devoted to many astronomical problems. It is no wonder, that to the scientific problems being traditionally solved in Odessa observatory, the subjects on variable star research have joined immediately.

It is necessary to note, that in Odessa there were already the traditions of researches of variable stars: M.S. work by V.S.Zhardetsky on the study of a spectrum of the cepheid η Aquillae and a compilation of spectral observations of eclipsing binaries by A.M.Shulberg. However, these were the separate works divided by a large interval of time. V.P.Tsessevich has put the photometric researches of different types of variable stars in Odessa on the strong base and has made them the basic subject of the Odessa observatory. He has given to A.M.Shulberg

a new theme on theoretical researches of eclipsing variable stars and was the initiator of development by A.M.Shulberg of the first method of determination of elements of orbits of eclipsing variable stars with extended atmospheres by using the algorithm of Kozyrev and Chandrasekhar.

In Odessa V.P.Tsessevich realized the patrol service of the 'Anti-Algols' (i.e. short-period cepheids or RR Lyrae -type stars) which was begun by him earlier. The systematic observation of these objects and tracking behaviour of their periods of the brightness variations was carried out. The Blazhko effect, and also other characteristics of stars of this type were carefully investigated. The different types of pulsating and eruptive stars were investigated, the new types of stellar variability were searched. The study of cataclysmic variables, research of the brightness variations of asteroids and many other explorations had begun. The edition of the "Bulletin" (at first), then of the "News of the Astronomical observatory" have begun.

V.P.Tsessevich has organized a substantial growth of the observatory staff (by a factor of 10), an expansion of subjects including the research of meteors and bolides; the photographic and radar-tracking observation; positional observations, both photometric and theoretical researches of the artificial satellites of the Earth; introduction of photoelectric and electrospectrophotometric methods of observations. V.P.Tsessevich has organized in Odessa the construction of telescopes, by creating for this purpose the optical, mechanical and electronic laboratories, which have made more than 30 telescopes and many other equipment.

Under the supervision of V.P.Tsessevich, the suburban astronomical stations in the villages Kryzhanovka and Mayaki were created, where is located a basic observational equipment of the observatory. At this time, the observatory enriched by a number of mountain observational stations in Armenia, on the Northern Caucasus (with a 80-cm a telescope), in Turkmenia. By the forces of V.P.Tsessevich, a large (about 200 thousands items) Scientific library, the Collection of patrol negatives of the stellar sky (about 100 thousands plates), have been

created, as well as the Depositarium of the unpublished photoelectric observations of variable stars (about 400 thousands observations).

Totally, V.P.Tsessevich has obtained about 500 thousands observation, has published more than 650 scientific papers and notes, a large number of the reviews, editorial papers, introductory papers and notes, reviews in the different encyclopedias and calendars. He was the co-author of large number of the collective monographies, the author of the monographies devoted to researches of the RR Lyrae and RW Aurigae – type stars, two monographies devoted to observation of variable stars in various constellations, the books "How to observe in the sky", which sustained 6 editions, "The Atlas

of finding charts of variable stars" (co-author M.S.Kazanymas).

V.P.Tsessevich could not sit without scientific and educational work. Any time the visitor would come, he could see, that V.P.Tsessevich either measures the brightness of variable stars on photonegatives, or processes these observations, or prepares for lectures for the students, or works on papers and monographies. He did not suffer lazyness. For the schoolboys, students, post-graduate students, colleagues, among which more than ten doctors of sciences and more than 50 candidates of sciences, he always was an example of the relation to work, love to the science elected by him. V.P.Tsessevich died on October 28, 1983.