

This article was downloaded by:[Bochkarev, N.]
On: 18 December 2007
Access Details: [subscription number 788631019]
Publisher: Taylor & Francis
Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Astronomical & Astrophysical Transactions

The Journal of the Eurasian Astronomical Society

Publication details, including instructions for authors and subscription information:
<http://www.informaworld.com/smpp/title~content=t713453505>

200 years of astronomy in Odessa

V. G. Karetnikov^a

^a Astronomical Department of Odessa, State University T. G., Odessa, Ukraine

Online Publication Date: 01 June 1996

To cite this Article: Karetnikov, V. G. (1996) '200 years of astronomy in Odessa',
Astronomical & Astrophysical Transactions, 10:1, 21 - 32

To link to this article: DOI: 10.1080/10556799608203241

URL: <http://dx.doi.org/10.1080/10556799608203241>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article maybe used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

200 YEARS OF ASTRONOMY IN ODESSA

V. G. KARETNIKOV

*Astronomical Department of Odessa State University T. G. Shevchenko Park,
270014 Odessa, Ukraine*

(Received October 16, 1994)

Astronomy in the city of Odessa, a sea-port, existed from the time immemorial. First it was used nautical practice and in train navigators for applied purposes. The part it played was highly appreciated in Odessa. An Astronomical Observatory already existed in Richelieu Lyceum founded in 1817. One of the rooms of the Lyceums department of physics and mathematics accomodated the Observatory equipped with 24 astronomical and topographic instruments. The observatory was used for educational urposes only and had no applied or scientific significance then. Subsequently, these instruments constituted the base for astronomical study at the astronomy and geodesy Chair of the Novorossiysk University inaugurated in 1865 on the basis of Richelieu Lyceum.

The necessary of creating the astronomical base in the town of Odessa, not only of educational but also of scientific and applied, and even commercial, importance was being discussed before the Novorossiysk University inauguration. Town authorities realized the urgency of such an establishment, and, after long-term discussions, in 1863 the Municipal Duma (Council) presented the University with a plot of 0.8 hectares as well as with premises in Lanjeron locality for construction of the Astronomical Observatory. 31,500 roubles were donated by Treasury for this construction, but town autorities considered this money to be insufficient and granted 20,601 roubles more from the municipal budget aiming the Observatory at fulfilling educational as well as scientific and applied functions.

The construction was commenced in 1870 on the base of projects prepared by architect P. V. Iodko and the first Observatory's Director L. F. Berkevich. Money was not allotted in full extent, and the construction had to be curtailed. The erection of the building was completed in 1871 and approved by a special commission on the third of August, and this date is taken as that of the Observatory's foundation. In 1885 a round dome was erected by architect A. I. Bernardazzi for the 6.5-inch refractor purchased in England with money donated by Dr. Med P. A. Ivanov. And in 1915 this dome was connected by vestibule with the main building thus forming a unifold monument of architecture with protected by the States.

When opening the Novorossiysk University, a Chair of Astronomy and Geodesy was organized, at the faculty of Physics and Mathematics. In charge of this Chair was Professor L. F. Berkevich (1828–1897), a graduate from the St.-Petersburg University who had worked at Warsaw astronomical observatory and trained for two years in astronomy and celestial mechanics in Germany under famous scientists Gansen, Encke, and Peters, It was already in the first academic year of the Novorossiysk University, 1865–1866, that L. F. Berkevich delivered lectures on spherical trigonometry and cosmography equivalent to contemporary courses of spherical and general astronomy. Later on, the list of lecture courses was appended with courses on practical and theoretical astronomy and others.

L. F. Berkevich was a celestial mechanics theoretician with no need for obtaining observational material. Nevertheless, he would take persistent troubles of purchasing instruments for astronomical observations and solicit for the observatory construction and equipment. L. F. Berkevich was in charge of the astronomy and geodesy Chair from 1865 through 1880. With his participation, in 1866 an astronomical study was organized and equipped with astronomical instruments: in 1871 the Astronomical Observatory was put into operation, and L. F. Berkevich took the charge of it. After long service, he retired but continued lecturing for lure till the end of the academic year of 1881–1882. Afterwards L. F. Berkevich left Odessa for Vilno and then settled in St.-Petersburg.

L. F. Berkevich's research in Odessa dealt with investigation of perturbations in motion of the minor planet Juno. His scientific works proved to be remarkable, were noticed in researchers' circles, and served as a basis for defending candidate and then doctor dissertations. In order to develop the works at the Observatory, L. F. Berkevich arranged the purchase of Repsold meridian circle with the objective diameter of 135 mm at the Tifliss Physical Observatory. This circle, constructed in Germany in 1862, is still functioning reliably at the Odessa Observatory. L. F. Berkevich asked O. V. Struve, Director of the Pulkovo observatory, to consult him on the development of astronomy in Odessa and received pieces of good advice concerning organization of photometric and spectroscopic observations of stars, meteors, maintaining time service and arranging determinations of stellar positions.

L. F. Berkevich managed to secure wages for the Observatory's observing astronomer this staff position was taken by a lecturer of the astronomy and geodesy Chair, E. E. Block, an expert in practical astronomy. He combined delivering lectures on this subject with practical studies on astronomy for students. E. E. Block worked as an observing astronomer at the Observatory from 1873 to 1885, until his retirement. The Chair of astronomy and geodesy, Novorossiysk University, had trained a group of specialists, the most distinguished among them being A. K. Kononovich and N. D. Tsvetinovich. They succeeded L. F. Berkevich and E. E. Block in their positions and continued developing astronomy in Odessa.

In 1881 Professor A. K. Kononovich (1850–1910) was elected the head of the Chair of astronomy and geodesy and the Director of Astronomical Observatory, Novorossiysk University. He graduated from the Novorossiysk University in 1871, former grant-aided student, and then was sent to Germany for training under the famous astronomer Zöllner. His works of that period were highly appreciated by

the scientific community, and A. K. Kononovich was active in research of binary stars (he devoted his Master of Science dissertation to them), and in photometry of major planets Mars, Jupiter and Saturn – the subject of his Dr. Sci. dissertation.

Thanks to A. K. Kononovich, valuable contributions were made to scientific and practical works. A. K. Kononovich equipped the Observatory with photometers, a protuberance-spectroscope, wide-angle astrographs, a spectroheliograph and other instruments: in designing them he was actively assisted by I. A. Timchenko, the University mechanic. During Kononovich's directorship at the Observatory, the 160-mm Cook refractor was installed (1886), and it remained the main instrument till 1956. Practical astronomy program was conducted by N. D. Tsvetnovich, the observing astronomer, who had served in this position since 1885 till 1899. His work was replenished with that on observation of prominences (since 1892) and of solar spots (since 1894) carried out by F. A. Babichev, the observing astronomer of the Observatory from 1899 till 1913.

It was under A. K. Kononovich that reknowned became investigations of binary star orbits, photometric investigations of major planets, the study of light reflection laws at different wavelengths from different surfaces, it was under him that the solar eclipse of August 18th, 1887 was observed and studied. Kononovich's disciples assisted in solving many problems, amidst the most distinguished ones proved to be later on the well-known astronomers of Pulkovo observatory A. S. Vasilyev, A. P. Gansky, L. S. Okulich, and A. P. Orbinsky who had worked at the Astronomical Observatory, Novorossiysk University, before coming to Pulkovo. Among disciples of A. K. Kononovich there are also V. V. Stratonov, the future Dean of Faculty of Physics and Mathematics, Moscow University, N. N. Donich, later on Academician of Rumanian Academy of Sciences, as well as the above mentioned F. A. Babichev.

A. K. Kononovich paid much attention to administrative activity. Apart from taking charge of the Chair and the Observatory, A. K. Kononovich repeatedly was elected Dean of Faculty of Physics and Mathematics and acted as Rector of Novorossiysk University. With his participation, pavillions were built at the Astronomical Observatory and Odessa branch of Pulkovo Observatory was opened in 1896, A. R. Orbinsky was the first to head it. Astrometrical investigations of celestial bodies which were not within the reach of Pulkovo Observatory, would be conducted at this branch. However, in 1912 the branch was transferred to Nikolayev nautical Observatory becoming the Pulkovo observatory branch.

After the death of A. K. Kononovich, Professor of physics M. P. Kasterin was temporarily in charge of the astronomy and geodesy Chair and the Astronomical Observatory. But in 1912 Professor A. Ya. Orlov (1880–1954), former observing astronomer of Yuryev (Tartu) University, was elected the Head of the Chair and Director of the Observatory. A. Ya. Orlov was an outstanding scientist, later Academician of the Academy of Sciences of the Ukraine and corresponding member of the Academy of Sciences of the USSR, the founder and Director of Poltava Gravitometric observatory, founder and Director of the Main Astronomical Observatory of the Academy of Sciences of the Ukraine in Kiev. N. M. Lyapin, an expert in as-

trometry who had investigated the meridian circle, chronometers, and Observatory Clock in detail, became observing astronomer in 1913.

A. Ya. Orlov introduced many novelties into the Observatory's work. He founded the scientific library at the Observatory, organized publishing the "Transactions of Astronomical Observatory" (1914-1915), "Circular of Odessa Astronomical Observatory" (1921-1927), "Odessa astronomical calendar". Under A. Ya. Orlov, the meridian circle was removed from the main building hall into a separate pavillion, the main building was reconstructed, a passageway linked it with the round dome housing the Cook telescope. The meridian circle was restored and astrometric observations commenced. I. A. Dyukov determined positions of 125 circumpolar stars from nearly 2500 observations.

A. Ya. Orlov's tenure in Odessa was very fruitful. As a scientist mainly interested in classical astronomy, A. Ya. Orlov paid much attention to precise determinations of the positions of celestial bodies, to the problem of latitude fluctuations, the tidal question, foundation of support points with exactly fixed coordinates and determined gravities. A. Ya. Orlov was also active in problems of celestial mechanics. An original method of determination of orbits of spectroscopic binary stars was developed by him, he also prepared a capital lecture course on theory of determination of orbits for celestial bodies. Jointly with N. V. Zimmerman, A. Ya. Orlov investigated the position of the solar equator from observations in Odessa.

The Astronomical Observatory under A. Ya. Orlov in the 20ies-30ies actively participated in the All-Union gravimetric survey, conducted a number of expeditions to remote regions of the country to determine gravity, founded the Support Point of Gravity adopted now as a reper of zero class. The Point located at the Astronomical Observatory is a depository of basic constants: longitude, latitude, altitude above the sea level, and gravity. A. Ya. Orlov displayed keen interest in needs of Odessa. Under him the Astronomical Observatory did the levelling of the town territory, seaside, he was concerned with the problem of creeps of the sea coast. However, A. Ya. Orlov arrived at the conclusion of impossibility to make precise gravimetric surveys in Odessa due to distorting effect of sea tides upon the measurements. Therefore in 1926 he founded Poltava gravimetric observatory and in 1933 moved there.

Under A. Ya. Orlov, the Observatory staff considerably expanded. He had assembled astronomers who afterwards became eminent scientists. These were V. A. Al'bitsky, I. I. Vitkovsky (later the Director of Warsaw Observatory in Poland), I. O. Dyukov, V. E. Elistratov, N. M. Michal'sky, D. V. Pyaskovsky, N. S. Stoiko (later the Director of Paris Centre of exact time in France), N. N. Donich, N. N. Zimmerman, and others. The staff grew after the liquidation of universities in the 20-ies which resulted in transforming the observatory into State Astronomical Observatory of Narkompros, the Ukraine, to fulfil state and military programs. In 1921-1924 the Observatory was busy with calculating "The nautical annual" and publishing it for navigational needs. It was A. Ya. Orlov who invited a well-known astronomer and geodesist B. V. Novopashenny who afterwards became the most prominent astrometrists of the observatory and of the country.

In post-revolutionary years, by virtue of amateurs in astronomy and Odessa society of amateurs of knowledge about the Universe (Mirovedenie) located in the T. G. Shevchenko Park, near the State Astronomical Observatory, and with its participation there a building of "The first Odessa Astronomical Observatory" was erected, with a dome for the 300-mm Ponomaryev reflector and the 108-mm Stengel refractor. The Observatory was being built by astronomy amateurs, with their own hands, among them were future outstanding scientists: the founder of the cosmological theory of "Hot Universe" G. A. Gamow, one of the founders of rocket and space technology, Academician of the Academy of Sciences of the USSR V. P. Glushko. R. L. Dreisen, an expert in meteoritics, became the Director of the Observatory. "Bulletin of the First Astronomical Observatory" (No. 1, 1938) containing scientific results of the work done was issued by the Observatory. Later on this observatory was adjoined to the Astronomical Observatory of Odessa State University.

After Odessa (Novorossiysk) University resumption in 1933, the Observatory again constituted its part as a scientific institution. The Director's post was occupied for a short while by B. V. Novopashenny (1891-1975), and then by I. V. Vishnevsky, not an astronomer: however, since September 1, 1934 an eminent astronomer Professor K. D. Pokrovsky (1868-1944), a corresponding member of the Academy of Sciences of the USSR, became the Director. In 1936 he resumed Astronomy Chair at the Faculty of Physics and Mathematics of the University, introduced astronomical speciality and post-graduate courses. K. D. Pokrovsky's service as Dean at the Faculty of physics and mathematics promoted to this. Under K. D. Pokrovsky's directship, the Observatory was enriched by a zenith telescope, the double Cook-Heide astrograph ($D_1 = 135$; $D_2 = 153$ mm), the Fuke heliograph, a horizontal solar telescope of expedition type ($D = 100$ mm).

The research program of Astronomy Chair and Observatory was extended to include (besides astrometry, celestial mechanics, and solar observations) new directions of micrometer observations, theoretical investigations of binary stars, asteroids, comets and meteor streams, observations of lunar occultations, photometric and spectroscopic observations of stars. On June 19th, 1936 the Observatory successfully carried out the expedition to a total solar eclipse in Omsk region. The observatory publisher's activity was resumed again. Three volumes of "Transactions of Astronomical Observatory" were issued (1935, 1937, 1940) within the frames of "Transactions of Odessa University". At that time the Observatory was staffed, apart from Professor K. D. Pokrovsky, by Professor I. D. Androsov, an astrometrist, by Professor N. M. Michal'sky, a celestial mechanic, by V. B. Balasoglo, an investigator of the Sun, and by an astrometrist B. V. Novopashenny.

During prewar period, the Observatory participated in a large cooperative work on compiling fundamental and general catalogues of faint stars and showed a very high observational precision. Among investigations conducted, the most reknowned were observations of lunar occultations (K. D. Pokrovsky, B. V. Novopashenny), the studies of pole motion from latitude measurements (I. D. Androsov), the measurements of asteroids' and comets' positions (K. D. Pokrovsky), the improvement of orbital elements of asteroids and the determination of Jupiter's and Saturn's masses (N. M. Michal'sky), the study of the meteor stream related to comet Pons-

Winnecke (N. M. Michal'sky, A. M. Al'perovich). V. B. Balasoglo and I. B. Donich determined positions of solar spots, whereas, in the field of stellar studies, the works by V. B. Balasoglo on representation of light variation in 28 cepheids with harmonic series and those by A. R. Shul'berg on determination of orbital elements for the eclipsing variable TW Cassiopeiae should be noted.

In 1941 the war came to our land, and peaceful life stopped at the observatory. But all the researchers who stayed in town during the occupation continued scientific investigations. Thanks to efforts exerted by K. D. Pokrovsky and B. V. Novopashenny, the Observatory buildings and instruments were kept safe and sound. So, after liberating Odessa from occupants in 1944, the Observatory immediately proceeded to work. Unfortunately, the Observatory suffered from a terrible bereavement – Professor K. D. Pokrovsky was arrested and accused of high treason. On September, 5th 1944 he died in prison hospital, his expectations failed to appear in court trial. At present he is rehabilitated. After K. D. Pokrovsky's arrest up to the end of 1944, B. V. Novopashenny was the Director of the Observatory, and from January 1945 he was succeeded by V. P. Tsessevich elected Head of Astronomy Chair, Odessa University, in summer 1944.

Professor V. P. Tsessevich (1907–1983), a graduate from Leningrad (Saint-Petersburg) University, worked in Leningrad at the Astronomical Observatory of the University, at the Astronomical Institute, at Pulkovo Observatory, as Professor of Leningrad Pedagogical Institute. At prewar time V. P. Tsessevich was sent to Middle Asia where he organized the Institute of Astrophysics in Stalinabad (Dushanbe) in Tadzhikistan existing till now. When the Great Patriotic war had broken out, V. P. Tsessevich found himself in Leningrad and survived the first most terrible blockade winter. Then he was evacuated to Middle Asia where he started working at Odessa Technological Institute of Canning Industry, at Odessa Pedagogical Institute. With them he returned to Odessa in 1944 and took simultaneously posts of the Head of Astronomy Chair, Odessa University, and the Director of its Observatory. These two University posts V. P. Tsessevich held till 1983.

V. P. Tsessevich was a particularly gifted personality. On entering the University at the age of 15, he soon (1924) became the author of several scientific publications on variable stars. He made over 200 thousand observations, studied up to 500 variable stars of different types, and published more than 600 scientific papers and monographs. His favourite objects for investigation were eclipsing variables and intrinsically variable pulsating stars, but a considerable contribution was made by V. P. Tsessevich to studying eruptive variables, semiregular and irregular pulsating stars. Still at prewar time, the tables of photometric phases for eclipsing binary stars, necessary for calculations of orbital elements, were compiled by him. Afterwards this work proved to be the base of his D. Sci. dissertation and several monographs. Numerous papers and monographs by V. P. Tsessevich were devoted to variables of different type.

V. P. Tsessevich took a keen interest and actively participated in the work in areas adjacent to astronomy, either by himself or by stimulating his colleagues and disciples. Jointly with Professor E. N. Kramer, he arranged investigations of meteors and during the International Geophysical Year – their radar observations.

After launching artificial Earth's satellites, V. P. Tsessevich together with Professor V. M. Grigorevsky were the first to organize photometric investigations of these objects and to develop the theory of determining their orientation in orbit. V. P. Tsessevich was the initiator of constructing a radiotelescope "URAN-4" in Odessa belonging now to the Radioastronomical Institute of the Academy of Sciences of the Ukraine, of establishing astronomical instruments engineering (V. N. Ivanov), an optical laboratory (N. N. Fashchevsky), and telescope engineering (L. S. Paulin). He gave permanent attention to development of works on astrometry, celestial mechanics, meteor and stellar astronomy, space investigations, and stellar astrophysics, to studies of variable stars.

V. P. Tsessevich organized the enlargement of the Observatory. In 1956 the construction was commenced at two suburban bases, in settlements of Mayaky and Kryzhanovka, as well as at a corresponding point in the University Botanical Garden. Later on there appeared high-altitude stations of the Observatory: jointly with the Main Astronomical Observatory of the Ukrainian Academy of Sciences, at the Terskol peak (Northern Caucasus); together with Pulkovo Observatory of the USSR Academy of Sciences, at the Bezymyanny pass (Armenia); at the Dushak-Erecdag mountain (Turkmenistan), jointly with the Turkmenian Academy of Sciences. Taking into account Tsessevich's great experience in constructions observatories, he was appointed by the Academy of Sciences of the Ukraine Director of the Main Astronomical Observatory of the Ukraine near Kiev; he held this post from 1948 to 1950, without being dismissed from his work in Odessa. Under V. P. Tsessevich, at the main base of the Astronomical Observatory, Odessa University, in T. G. Shevchenko Park, four buildings as well as a number of premises and pavillions were erected.

At postwar time, the Observatory had no scientific status, and only in 1969, according to the decree taken by the Council of Ministers of the USSR, it was given the status of a research institute of the second Category. In those years there were only two departments at the Observatory: those of astrometry and of astrophysics. The first department was headed by B. V. Novopashenny, and the second one, staffed by more colleagues, first by E. N. Kramer, now Professor of the Astronomy Chair of Odessa State University, then by I. N. Kovshun, now Professor of Odessa Economics University, and later on by N. S. Komarov. In the 1970ies V. P. Tsessevich reorganized the Observatory's structure; instead of two departments, six research sectors were organized: for variable stars' investigations, managed in different years by V. P. Tsessevich, E. N. Makarenko, Yu. S. Romanov, and by acting manager S. N. Udovichenko; for astrospectroscopy, with a continuous manager N. S. Komarov; for space investigations – first managed by V. M. Grigorevsky, then, after his transfer to another institute, by Yu. A. Medvedev; for astronomical instruments engineering, with a continuous manager V. N. Ivanov; for astrometry, first headed by B. V. Novopashenny, and after his death (1976) by M. Yu. Volyanskaya; for meteors and comets, managed by E. N. Kramer, and then by I. S. Shestaka. In 1985 the first four sectors were transformed into a scientific research department, and the latter two, alongside with a group studying interstellar matter, into a combined department of kinematics and dynamics of celestial bodies, managers of which was first M. S. Kazanymas, and then B. N. Fir-

manyuk. In 1991 this department was reorganized into scientific groups under the Director, and in 1992–94 they were given status of separate scientific research sectors.

Contribution of suburban observational stations was begun in 1956 with active participation of the Director V. P. Tsessevich, his deputy A. R. Shul'berg and first managers of the stations S. V. Rublev (Mayaky) and G. A. Lange (Kryzhanovka). Then managers of the stations were: in Mayaky – Yu. E. Migach, Yu. A. Medvedev, V. P. Murnikova, V. P. Bezdenezhny, V. P. Sotnikov, and A. N. Karnashov; in Kryzhanovka – B. N. Firmanyuk and A. V. Ryabov. Much work was to be done in seeking a site for construction of the All-Ukrainean Observatory in Budzhak steppe where astroclimate was being investigated by Yu. I. Zaginailo and others. Strenuous effort was made to erect high-altitude observational stations. All these were built with financial funds of the Observatory and by virtue of the astrospectroscopy department. A particular contribution to this was made by N. S. Komarov, V. F. Karamysh, E. A. Depenchuk, N. I. Dorokhov, and others.

V. P. Tsessevich was a perfect lecturer, and students from various faculties rushed to his lectures, teachers attended them readily as well. He profoundly and masterly possessed all the material on all fundamental courses of the astronomical speciality, restored in 1960, and delivered them. V. P. Tsessevich repeatedly organized academic seminars for students at the Observatory, and would watch closely their growth. His great experience in lecturing and heading the Chair as well as his service as Dean of physical and mathematical faculty of the University promoted to good personnel work. Under V. P. Tsessevich, Professor K. N. Savchenko (celestial mechanics), Professor I. S. Astapovich (meteor astronomy), K. Ya. Goryaistov (astrophysics) A. R. Shul'berg (stellar astronomy), A. S. Tsesyulevich (astrometry) worked at the Astronomy Chair. Later the Chair's staff changed, in different years there worked V. K. Abalakin (stellar dynamics), E. P. Filyanskaya (celestial mechanics), B. V. Novopashenny (astrometry). Thanks to these people's efforts, a brilliant group of today's leading colleagues, actively working at the Astronomical Observatory, Odessa University, and at other institutes, has been brought up.

Because of dearth of high-qualified teachers in the post-war time, V. P. Tsessevich actively participated in establishing and arranging work at Chairs of mathematics of various institutes. He took charge of Chairs in Odessa Institute of Navy Engineers, in Odessa Higher Marine Engineers' College (now Marine Academy), and others. In the latter, the Chair of nautical astronomy was organized whose staff had been trained in astrometry at the Observatory under active participation and scientific direction of V. P. Tsessevich. Among those colleagues, the heads of Chairs should be mentioned: Professor L. F. Cherniev and Professor A. M. Stafeev who conducted series of precise determinations of positions of celestial bodies with the meridian circle of the Observatory and modernized it.

V. P. Tsessevich favoured in expansion and qualitative development of the Observatory researchers' body. If by 1951 the Observatory personnel had grown from 5 to 15 persons, by 1983 it had expanded tenfold, in the first case V. P. Tsessevich being the only one who was conferred scientific degree, in the latter case about 20 people had scientific degrees and titles. Among graduates of V. P. Tsessevich's

period, appeared doctors of sciences. These were: V. K. Abalakin, corresponding member of the Academy of Sciences of Russia, Director of Pulkovo Observatory; V. M. Grigorevsky, N. B. Divary, V. G. Karetnikov, N. S. Komarov, E. N. Kramer, V. E. Panchuk, I. B. Pustyl'nik, I. S. Shestaka, E. A. Vitrichenko. I. L. Andropov, the last post-graduate of V. P. Tsessevich, is to defend his D. Sci. thesis. Altogether, V. P. Tsessevich prepared nearly 40 candidates of sciences.

All the above doctors and candidates of sciences carried out deep astronomical investigations in various fields of astronomy, and it is impossible to enumerate all their results. Therefore, we would like to recollect only the largest achievements gained at the period of the astronomy Chair and Observatory headed by V. P. Tsessevich, corresponding member of the Ukrainian Academy of Sciences, Honoured Scientist of the Ukraine: for the first time, the theory of determination of orbital elements for eclipsing binary stars with extended atmospheres was developed (A. R. Shul'berg); for the first time, the meteor patrol with a shutter of variable cross-section was constructed (E. N. Kramer, N. I. Timchenko); for the first time, a method of "instantaneous" exposures of meteors was developed (E. N. Kramer, V. P. Orlov), comet radiants were determined (commenced by K. D. Pokrovsky and continued by E. N. Kramer in 1953); for the first time, photometric investigations of artificial Earth's satellites were arranged, and the theory of determining their orientation in orbit was created (V. M. Grigorevsky, V. P. Tsessevich); the theory of atmospheres of Wolf-Rayet stars was developed (S. V. Rublev).

Besides other works at the Observatory during V. P. Tsessevich's directorship, the following achievements should be noted. High-precision photometry and stellar spectrophotometry were established at the Observatory (V. G. Karetnikov, N. S. Komarov, Yu. A. Medvedev, V. A. Pozigun); optical telescope systems of P. P. Argunov and N. N. Fashchevsky were implemented; characteristics were studied and a catalogue of 292 long-period Cepheids was compiled (E. N. Makarenko); properties of RR Lyrae stars as well as of RW Aurigae stars were investigated (V. P. Tsessevich, B. A. Dragomiretskaya); periodical orbits of stars in clusters were studied (V. K. Abalakin); catalogues of spectral and photometric characteristics of stars were compiled (N. S. Komarov, V. F. Karamysh and others), as well as catalogues of meteor orbits (E. N. Kramer, A. K. Markina and others). About 30 telescopes were designed and manufactured, of which two 80-cm telescopes are mounted and functioning at high-altitude bases. Works were carried out for designing 1-m and 1.5-m telescopes. Astrometrists compiled catalogues of positions and proper motions of Cepheids (E. F. Ludchenki), eclipsing binaries (M. Yu. Volyanskaya), red giants (B. V. Novopashenny), etc.

Under V. P. Tsessevich, the information bank of publications was established and constantly replenished at the Observatory. The number of issues deposited in the Scientific Library increases from 5,000 under K. D. Pokrovsky to nearly 200,000, the International Depository of photoelectric observations of variable stars constituting about 400,000 high-precision observations was organized. But the main thing is the creation in Odessa of the world third-richest Collection of stellar sky photographs amounting to nearly 100 thousand plates. Apart from this, about 50 catalogues of precise positions of luminaries were compiled at the Observatory, as

well as catalogues of energy distributions in spectra of about 500 stars, catalogues of absolute characteristics of nearly 300 eclipsing binary stars, catalogues of orbital elements and light curves of about 500 meteors, and others. On behalf of the International Astronomical Union, annually (since 1958) the revision of elements of RR Lyraes is undertaken and catalogues of ephemerides are published, two times a year the bibliography of publications in the former USSR on eclipsing binaries is compiled.

After the death of V. P. Tsessevich in 1983, according to his preliminary suggestion, V. G. Karetnikov, an associate professor of the Chair at that time, was elected the Head of the Astronomy Chair. To the Observatory Director's post Yu. A. Medvedev was appointed, acting director from 1983 to 1989. At that time, scientific themes continued to develop, particularly the applied ones. The Observatory staff and volume of contract applied works expanded still more, and with the staff of 180 persons, the volumes of applied investigations exceeded those of the fundamental ones by 10 times. Nevertheless, at this period the Observatory's status was changed, and in 1984–1988 it became a scientific-research laboratory of Odessa University. Conflicts, collisions and difficulties in work appeared, and by demant of the collective staff of the Observatory in 1989 elections to Scientific Council and of the Observatory's Director were held. Head of the Astronomy Chair, Odessa University, Professor V. G. Karetnikov, now Academician of the Academy of Sciences of Higher Schools of the Ukraine, became the Director of the Observatory. He proceeded to his Director's duties on January 1, 1990.

After V. P. Tsessevich's death, the Chair staff was expanded to 6 persons. It includes Professor V. G. Karetnikov, a member of the Chair since 1965, an expert in structure and evolution of close binary stars, photometrist and spectroscopist; Professor E. N. Kramer, Chair member since 1966, an expert in meteor and comet astronomy, celestial mechanics and astrophysics; associate professor A. R. Shul'berg, Chair member from 1938 till 1990, an expert in the theory of eclipsing binary stars and stellar astronomy; associate professor V. A. Pozigun, Chair member since 1977, an expert in on astronomical instrument engineering; associate professor M. I. Myalkovsky, Chair member since 1982, astrometrist; and associate professor I. L. Andronov, Chair member since 1985, an expert in physics of cataclysmic stars. The chair is staffed also by colleagues working on a temporary basis: candidates of sciences S. M. Andrievsky, L. F. Cherniev, L. V. Glazunova, and M. I. Ryabov; by those delivering lectures free of charge: candidates of sciences N. N. Fashevsky, Yu. S. Romanov, Yu. I. Zaginailo, and doctor of sciences I. S. Shestaka, and by others.

Scientific investigations at the Observatory are conducted on the basis of existing four departments, four separate sectors, two working groups, two out-of-town stations, and three high-altitude points. Heads of the departments are: of variable stars' investigations – Yu. S. Romanov (with acting Head S. N. Udovichenko); of astrospectroscopy – N. S. Komarov; of space investigations – Yu. A. Medvedev; of astronomical instrument engineering – V. N. Ivanov. Heads of the sectors are: of meteors and comets – I. S. Shestaka, of astrometry – M. Yu. Volyanskaya, of upper atmosphere – Yu. I. Zaginailo, and of close binary stars – V. G. Karetnikov.

Working groups are at Director's service and carry out investigations on celestial mechanics and on stellar abundances of heavy elements.

The astronomy Chair and Astronomical Observatory personnel, as of late 1993, carry out investigations on 23 most important state budget and 4 special themes, on a scientific theme of the State Committee on science and technologies and on a contract theme. These are investigations on physics and evolution of constant cool stars, intrinsic variables, close binary stars, meteors and cometary matter, asteroids and artificial Earth's satellites, dust component of the Earth's atmosphere, interplanetary and interstellar matter. Works are continued on precise determination of positions of celestial bodies with a recently restored and modernized Repsold meridian circle, on constructing a 1.5-m telescope, on new astronomical instruments and methods. In 1991 in Turkmenistan, at Mount Dushak-Erekdag, an 80-cm telescope equipped with the two-channel electrophotometer designed by N. I. Dorokhov, the best one in this country, was mounted; till now it secures matchless observational precision; in 1992 a 60-cm telescope of N. N. Fashchevsky system equipped with P. P. Sukhov television system was mounted at Mayaky station, it enables to observe objects to 15th magnitude whereas in 1993, at the same site, a 1-m telescope was installed, the largest Observatory telescope which is now being adjusted and tested. These years, under the direction of Yu. I. Zaginailo, an automatic, controlled by IBM PC/AT, expedition scanning twilight electrophotometer was designed using which experimental data are being gathered, works are carried out on arranging stations of laser-location observations of artificial Earth's satellites (Yu. A. Medvedev).

In 1988–1993, three D. Sci. dissertations were defended, and one was submitted for defence. New scientific results were obtained. In the stellar studies: the stage of evolution of contact early-type eclipsing binary stars has been substantiated and the sequence of evolution of other types of close binary stars have been studied (V. G. Karetnikov); differences of chemical composition of atmospheres of cool giant-stars due to *r*- and *s*-process have been found (N. S. Komarov, T. V. Mishenina, and others); mass and angular momentum transfer in magnetic close binary stars has been explained and processes occurring different types of cataclysmic stars have been investigated (I. L. Andronov); the presence and intensity of magnetic field in pulsating Cepheids have been determined (Yu. S. Romanov, S. N. Udovichenko, and others), as well as binarity of *s*-cepheids (S. M. Andrievsky and others).

In investigating minor bodies of the solar system and circumstellar space, a method has been developed and applied for identification of genetically related small bodies, and the existence of comet-meteor and asteroid-meteor complexes has been discovered (I. S. Shestaka), this was predicted by E. N. Kramer in 1953. At present, science workers of the sector of dust component in the Earth's upper atmosphere are preparing an edition of the monograph "Zodiacal Light" written by the prematurely deceased Professor N. B. Divary (1921–1993). N. B. Divary, a graduate of Odessa University who was in charge of the Mathematics Chair and Professor of the Odessa Polytechnical Institute, was the greatest expert on this problem and the scientific manager of works on studying dust component of circumterrestrial space at the Odessa Observatory.

Speeded-up development of the Astronomical Observatory of Odessa University led to the necessary of its status change. In 1993 it was given the status of scientific research institute of the 1st category under the Odessa University, retaining its historical and special name "Astronomical Observatory". Owing to this, favourable conditions were created for deeper and more fruitful activities. The issuing of "Odessa Astronomical Publications" has been resumed, it was ceased with Volume 5 in 1963. In 1993 Volume 6 was issued in English and disseminated, the next two volumes are being prepared for edition. A decision has been taken to publish history of astronomy in Odessa, and some essays are ready for the first Collection.

Scientific investigations of the Observatory and the Chair are also published in the leading astronomical journals of our country and abroad. Collaborators of the Astronomical Observatory and the Chair of astronomy, Odessa University, actively participate in International scientific meetings and cooperate with International Societies. About a dozen of scientific workers are elected members to the International Astronomical Union (IAU), many are members of the European Astronomical Society (EAS), the Astronomical Society of the former USSR, the Ukrainia Astronomical Association, and of professional and amateur astronomical societies in Odessa. Thus, astronomy in Odessa advances, and its authority is recognized both in our country and abroad.