WOMEN-ASTRONOMERS OF FORMER USSR

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Astronomy is a very popular science in Russia, but officially it is considered rather a man's speciality because of night observations, laborious measurements, developments of new facilities, etc.

At present there are about 35% women among specialists with higher astronomical education. The indicator of professional level is for women often higher then for men at this stage of career. Unfortunately this level remains the limit for most women-astronomers, because the possibility of farther promotion and higher position depends on family-status, home-life, having children, etc. That is why only 30% women have the first scientific degree, about 5%, the second scientific degree, and only a few individuals, the title of Professor.

As a consequence the most difficult part of this exciting science falls on women-astronomers: monotonous observations and calculations for astrometrical catalogues, processing of spectral information reduction of data, data bank management, and others. This is the most labour - intensive and ungrateful part of astronomical research that can not produce results ready for publication at relatively short times.

It is impossible to dwell on every women-astronomer. So we shall confine ourselves only to information about those women, who succeeded in obtaining the highest scientific degree - Doctor of Physics and Mathematics and Professor. We describe the situation in the former USSR.

Pelageya Shayn (1894-1956) discovered more then 150 new variable stars, about 40 new minor planets, and a new comet which was given her name.

Vera Gase (1899-1954) discovered a great number of nebulae unknown before, and found several new types of diffuse formations.

Sofia Romanskaya (1886-1969) from 1918 till 1956 carried out 20.7 thousand high-accuracy latitude observations to study the latitude-variations and phenomena of polar motion.

I. Appenzeller (ed.), Highlights of Astronomy, Vol. 10, 98–100.

Evgenja Bugoslavskaya (1899-1960) determined proper motion of stars. She is the author of the textbook "Photographic Astrometry".

Nadezhda Sytinskaya (1906-1974) is the author of the monographs "Absolute photometry of celestial bodies", "The Moon and its observations", and "The Nature of the Moon".

Nataly Samoylova-Jakhontova (1896-1994) organized "The Service of Minor Planets in the USSR". She was the head of the Department and founder of the annual "Ephemeris of Minor Planets". The minor planet N 1653 was given her name.

Elena Kazimirchak-Polonskaya (1902-1993) elaborated a new method of numerical integration of differential equations of motion of short-periodical comets. Planet N 2006 was given her name.

Judith Slonim (1909) discovered a relationship of flares with features in the upper layer of the Sun and elaborated a method of predicting the parameters of the 11-year cycle.

Klavdiya Barkhatova (1917-1990) is the author of 4 volumes of an atlas of colour-magnitude diagrams of open clusters and catalogues of distances, radial velocities and proper motions of clusters.

Alla Massevitch (1918) is a specialist in theoretical astrophysics and space geodesy. She was first to introduce mass-loss as an important factor in stellar evolution [1948]. Minor planet N 2008 was given her name.

Raissa Bartaya (1921) of Abastumani Astrophysical Observatory (Georgia) studied the structure and evolution of the Galaxy.

Elena Kostyakova (1924) studies the integral spectrum of the Milky Way, absolute spectrophotometry of comets and planetary nebulae.

Vera Khokhlova (1927) is a specialist in spectroscopy and physics of chemically peculiar magnetic stars.

Valentina Prokofyeva (1929) has about 100 publications connected with research in TV-astronomy, particularly TV-photometry.

Elma Parsamian (1929) (Armenia) discovered more than 200 flare stars in the Pleiades cluster, the Orion association and NGC 7023. She is a historian of ancient astronomy.

Nataly Stepanian (1931) investigated physical conditions in various active formations of the Sun. She is member of the Board of the Russian "Astronomical Journal".

Margaritta Petrovskaya (1933) is a researcher in celestial mechanics and physical geodesy. She proposed a new expansion of the planetary perturbing function with a rapid convergence.

Irina Glushneva (1934) compiled one of the most complete stellar spectrophotometric catalogues.

Tatjana Lozinskaya (1936) studies the interaction of supernovae and stellar winds with interstellar matter.

Lydia Rykhlova (1937). is a researcher in geodynamics and space debris problems. She investigates the nature of Chandler wobble.

Ene Ergma (1944) (Estonia). investigates the evolution of accreting white dwarfs as possible pre-supernovae and the combustion of thermonuclear fuel on the surface of neutron stars.

Tamara Ruzmaikina (1945) works in the field of cosmology and origin of the solar system, molecular astrophysics and star formation.

This list of outstanding women-astronomers in the former USSR and the present Russia is far from being complete. We have included only those women who have achieved the highest scientific degrees and titles. Of course this limitation is formal and those women are rather an exception. Most women in astronomical institutes and observatories, who have not yet achieved these degrees, are greatly contributing to astronomical science. Many women are awarded the Medal "For Discovery of New Astronomical Objects" - minor planets, variable stars, short-period comets etc.

Most of the women-astronomers are hard-working and devoted to science.

Now, I present some statistics to give a better picture of the real position of women in contemporary astronomy.

The typical fraction of women participation in science-management is close to 10%. That applies to department management, heads of faculties, professorships, membership of various scientific councils, and boards of scientific periodical journals. Precedents for women being chief of observatories or institutes are lacking.

There are no women-astronomers among the members of the Russian Academy of Sciences and never have been.

Participation of women-astronomers in various competitions for best scientific programs, plans, projects is at the level of 10%.

On the whole, it is obvious that there are no differences in working conditions for women or men (night observations, data reduction, theoretical developments ...), but concerning leading positions. titles, and degrees, there is a pronounced preference for men.

There are 4 names of Russian women-astronomers: Vera Gase, Sofia Romanskaya, Evgenja Bugoslavskaya and Zinaida Aksentyeva – among 332 new names of Venus.