

PANKO ELENA, Sc. D.

BASE EDUCATION: Odessa I.I. Mechnikov State University. Odessa, USSR.

Ph.D. THESIS was prepared in collaboration with Crimean Astrophysical Observatory, scientific supervisor PhD Anatoly Tarasov.

The Ph.D. thesis "Long-term variability of the emission spectra of Be stars of different types" contains the results of study of the long-term emission activity of Be stars with different dominating variability types: β Cep, α And, ζ Tau, EM Cep. Star variability was analyzed by patrol observations obtained at 1985 – 2000. The characteristics of variability of H α line basic parameters were studied and interpreted. In this research I showed that all program stars are members of multiple systems, but secondary component have not the direct influence on envelope in all cases. Emission phase of program stars have duration from a few months (EM Cep) to decades (ζ Tau). The evaluation of secondary component parameters for β Cep and ζ Tau were obtained. The results, which were obtained for all program stars premise work out in detail Be phenomenon description and define more exactly the role of Be stage in hot fast-rotating stars.

Sc.D. THESIS was prepared in Odessa I.I. Mechnikov National University, Odessa, Ukraine. scientific supervisor professor Sergey Andrievsky, in collaboration with Dr.Hab. Piotr Flin, Jan Kochanowski University (JKU) (Kielce, Poland).

Sc.D. thesis "The properties of large-scale structures of the southern sky at redshifts up to 0.2." contains a summary of results of investigation the properties of groups, clusters, and superclusters of galaxies, as well as those for galaxies in these structures. The distribution of more than a million galaxies in the Münster Red Sky Survey covering 5 thousand square degrees of the southern sky was analyzed in order to determine characteristic features of large-scale structures. A catalogue clusters and groups of galaxies with a wide set of their properties was created from the analyzed data in the survey. The redshifts for many structures were estimated using the $\log z - m_{10}$ calibration, and a list of superclusters was constructed. The ellipticities of clusters and groups of galaxies were analyzed according to their richness, redshift and morphological type. The founded dependences of cluster ellipticity on both richness and redshift are nonlinear.

The new scheme for morphological classification of galaxy clusters was originate. The types correspond to the base divisions from concentrated to open clusters, but also note both the presence of preferential direction or plane and role of bright galaxies in each cluster. 247 rich clusters were classified according to the scheme.

The spatial orientations of all galaxies in 247 rich clusters and in 43 rich clusters located in superclusters were investigated, and preferred orientations associated with the Supergalaxy were established. The influence of neighboring clusters on the orientation of galaxies was found to be significant. The special role played by supermassive cD galaxies on cluster formation was confirmed.

EMPLOYMENT IN SCIENCE:

researcher of Department of Physics and astronomy, Nikolaev State University, Nikolaev, USSR (1985-1990);

researcher and senior researcher of Nikolaev Astronomical observatory Nikolaev, Ukraine (1994-1998);

senior researcher, responsible executor of research "Photometric and astrometric monitoring of diffuse objects in the universe (active Seyfert

nuclei of galaxies, comets)", Department of Physics & Mathematics, Nikolaev State Pedagogical Institute, Nikolaev, Ukraine (2003-2005).

EMPLOYMENT IN EDUCATION: I work as lecturer 28 years: from lecturer to docent of Physics and Astronomy department, Nikolaev State/National University and as professor of Department of Theoretical Physics and astronomy at present. Educational courses: Astronomy, Astrophysics and connected courses for students specialized in astronomy. Invited lecturer of summer Cosmology Scholl "Introduction to Cosmology" (kielce-Krakow, Poland (2015-2017).

PARTICIPATION IN INTERNATIONAL COLLABORATIONS

1985 – 1986: International program "Observations of the Halley comet"
1987 – 1991: Research, production and astronomical testing of infrared and submillimeter telescopes – collaboration with Space Research Institute of the Academy of Sciences, Moscow, Russia.
1994 – 1998: The search of the candidates for optical counterparts of GRB (Gamma Ray Burst) – collaboration with Astronomical Institute of the Czech Academy of Sciences.
2003 – till now: Research of properties of galaxy clusters – collaboration with Astrophysical department of Physics Institute of University Jan Kochanowski University (JKU) (Kielce, Poland).

RESEARCH FIELD AT PRESENT:

Variable stars of different types, extragalactic astronomy.

STATISTICS

Scopus	All	After 2013
Publications	23	9
Citations	64	8
h-index	4	4
	All	After 2013
Google Scholar		
Publications	60	23
Citations	164	82
h-index	6	4
i10-index	4	2
	All	After 2013
ADS		
Publications	74	21