Review Article

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Conference “Modern Stellar Astronomy 2017”

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Abstract: Here we give a brief overview on the eighth annual conference on Modern Stellar Astronomy held in the Ural Federal University (Ekaterinbourg, Russia) in June 2017, to commemorate the 100th birthday of Prof. K. Barkhatova (1917-1990).

Keywords: Stars, Stellar Clusters and Associations, Milky Way Galaxy, Galaxies, Star Formation, Dynamics of Gravitating Systems, Modern Observational Facilities, Exoplanets

1 Introduction

This Special Issue contains the papers that were presented at the eighth annual conference on Modern Stellar Astronomy, held in Ekaterinbourg, in June 2017. The “Modern Stellar Astronomy” conferences provide a forum for Russian and former-Soviet-Union scientists concerned with stellar astronomy and related topics. The program consisted of invited talks, contributed oral talks, and poster papers. There were about 75 registered participants at the meeting, and the program of the conference included 68 oral and 20 poster presentations. The key topics for the conferences were Stars, Star Formation, Stellar Clusters and Associations, Stellar Dynamics, Milky Way Galaxy, Galaxies, Modern Observational Facilities, Exoplanets. The Special Issue contains 16 contributions.

2 Modern Stellar Astronomy 2017

Previous “Modern Stellar Astronomy” conferences were held at the Sternberg Astronomical Institute of the Moscow State University, the Main (Pulkovo) Astronomical Observatory of the Russian Academy of Sciences, the South Federal University (Rostov-on-Don), the Caucasus Observatory (Kislovodsk) of the Moscow State University.

This stellar-astronomy conference was held at the Ural Federal University (UrFU) to commemorate the 100th birthday of Prof. Klavdiya Barkhatova (1917-1990). UrFU is widely known for its stellar-astronomy traditions. The basics of stellar astronomy as a scientific discipline in UrFU were founded by Prof. K.A. Barkhatova who initiated, in the 1960-th, scientific studies of variables and binary stars, open star clusters and star formation regions. Together with Prof. M.A. Svechnikov, she started an active development of these directions. UrFU Department of Astronomy and Geodesy developed effective algorithms for determining the physical parameters of open star clusters, then modern catalogs and atlases of open clusters were constructed. The work on stellar dynamics and stability of stellar systems, performed in UrFU by Prof. V.M. Danilov and his colleagues, performed also in the universities of Moscow and St. Petersburg and in the INASAN. UrFU is well known for the studies, in the frame of international cooperation, of the physical processes in maser sources in areas of active star formation and radiation of interstellar molecules (led by director of Kouverkova Observatory A.M. Sobolev). One of the most important topic of the modern stellar-astronomy studies, is the study of the dynamics of the solar system at cosmological times. Associate professor E.D. Kuznetsov and his colleagues carry out celestial mechanical research on that topic. Still under way, are photometric and spectral studies of variable objects made on a binocular robotic telescope of the MASTER network, designed for registration of optical transients and established at the Kouverkova Observatory.

3 Conclusion

The proceedings of the stellar-astronomy conference presented here, reflect the above topics well enough. Along with continuing traditions of the Moscow, St. Petersburg, Ekaterinburg and Rostov-on-Don stellar-astronomy...
schools, we see signatures of promising modern research directions: study of stellar populations and interstellar matter in the Milky Way Galaxy, large-scale discoveries and studies of new associations and star clusters, modeling the global dynamics of galaxies, classification and parameterization of binary and variable stars, space research, etc. Quite a number of interesting presentations came from the Institute of Astronomy, Pulkovo Observatory, and other astronomical centers. In general, the conference devoted to the current state of stellar astronomy was very useful, and it will stimulate further research in this important field of astronomy.


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