BOOK OF ABSTRACTS

Actual Questions of Ground-based Observational Astronomy

MAO - 195

Mykolaiv, September 26-29, 2016

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
RESEARCH INSTITUTE “MYKOLAIV ASTRONOMICAL OBSERVATORY”

ACTUAL QUESTIONS OF GROUND-BASED OBSERVATIONAL ASTRONOMY

International Conference

ABSTRACT BOOK

September 26-29, 2016,
Mykolaiv, Ukraine

Organizers:

Ministry of Education and Science of Ukraine
Research Institute "Mykolaiv Astronomical Observatory"
Ukrainian Astronomical Association

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The Book of Abstracts contains abstracts of presentations to the International Conference "Actual Questions of Ground-based Observational Astronomy" to be held in Mykolaiv, Ukraine, on September 26-29, 2016. Methods and technical means of ground-based observations, IVOA role in modern research and actual problems of ground-based astronomy are presented.

GENERAL INFORMATION

The International Conference "Actual Questions of Ground-based Observational Astronomy" (MAO195) will be held in Research Institute "Mykolaiv Astronomical Observatory", Mykolaiv, Ukraine on September 26-29, 2016.

The conference is organized to discuss methods and technical means of ground-based observations, IVOA role in modern research, actual problems of ground-based astronomy as well as history of astronomical research. Working languages are English, Ukrainian and Russian.

Main Topics of the Workshop:

- Methods, technical means and software for ground-based observations and data processing.
- Use of IVOA technologies for solution of modern astronomical problems.
- Results of data processing for ground-based observations.
- History of astronomical research.

Information about Participants:

- General number of registered participants – 48;
- General number of represented organizations – 22;
- Number of submitted papers – 38;
- Number of authors of submitted papers – 84.

THE ARTIFICIAL SATELLITES OBSERVATION USING THE COMPLEX OF TELESCOPES OF RESEARCH INSTITUTE "MYKOLAIV ASTRONOMICAL OBSERVATORY"

Y. Sybiryakova, O. Shulga, Y. Kozyryev, V. Vovk, N. Kaliuzniy, F. Bushuev, N. Kulichenko, M. Haloley, M. Chernozub

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The special methods are needs for observation of artificial objects (AO) due to the fast apparent motion relative to the stars especially for Low Earth Orbit. The special methods, telescopes and software were developed in RI MAO for AO observation. The combined method of observation consists in separated accumulation of images of reference stars and artificial objects and using for observation of artificial objects on all orbits type. The TDI mode and camera rotator using for full-frame camera and allows to obtain the point-like images of artificial object at all type of orbits. The method of accumulation frames with shift are using for TV CCD cameras and allows to obtain the point-like images of artificial objects with apparent motion up to 0.5°/s. The three telescopes of MOBITEL complex using for observation of artificial satellites in RI MAO: the KT-50 (D=0.5m , F=3.0m), the telescope equipped of full-frame CCD-camera (3k×3k), field of view 0.7°×0.7°, limiting magnitude 18.5 (for exposure 120s). Mezon (D=0.23 m ,F= 0.8 m), the telescope equipped of full-frame CCD-camera (3k×3k), field of view 2.7°×2.7°,limiting magnitude 16 (for exposure 120s). TV-telescope (D=0.05 m ,F= 0.14 m), the telescope equipped of TV CCD-camera Watec 902 h, field of view 2.8°×2.1°, limiting magnitude 11.

NUMERICAL SIMULATION OF BINARY AND MULTIPLE ASTEROIDS SYSTEM DYNAMICS

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The paper shows a method of constructing the asteroid-centric coordinate system for the study of the evolution of the asteroids orbit satellites. The model includes a central asteroid, its satellite(s), Sun,