MINISTRY FOR EDUCATION & SCIENCE OF UKRAINE
UKRAINIAN ASTRONOMICAL ASSOCIATION
RESEARCH INSTITUTE “NIKOLAEV ASTRONOMICAL OBSERVATORY”

ENLARGEMENT OF COLLABORATION IN GROUND-BASED ASTRONOMICAL RESEARCH IN SEE COUNTRIES. STUDIES OF THE NEAR-EARTH AND SMALL BODIES OF THE SOLAR SYSTEM

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ABSTRACT BOOK

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SCIENTIFIC COLLABORATION BETWEEN SHANGHAI AND NIKOLAEV ASTRONOMICAL OBSERVATORIES (1996-2008)

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Scientific collaboration between Shanghai Astronomical Observatory (China) and Nikolaev Astronomical Observatory (Ukraine) began in 1996. The main collaborated research field is on "Refinement of linking optical and radio reference frames on the base of CCD observations in the Nikolaev and Shanghai Astronomical Observatories". After some years, the collaboration became an international Joint Project in the framework of collaborated observatories from China, Russia, Turkey and Ukraine, which has achieved good results.

Both ShAO and NAO recognize that CCD observations in drift-scan mode is preferable when observing the Solar system objects, especially survey for the NEO and other special objects, since the CCD observations in drift-scan mode can cover larger fields of the sky than other modes.

Both sides agreed to collaborate in the following research fields during 2006-2008:

(1) Cooperated survey of near-Earth space, determination of equatorial coordinates of objects (satellites and space debris) for catalogue and orbital elements of them, comparison of orbital elements with those from other catalogues.

(2) Realization of joint observations (astrometry and photometry) of the Solar system objects, especially NEO with telescopes of NAO and SHAO; determination of orbital elements of NEO and other Solar system objects. These works will be connected with Gaia Follow-Up program.

(3) Development of methods and software for CCD observation; data processing and determination of coordinates in drift scan and other modes.

(4) Improvement of electronical and mechanical hardware for CCD observation in drift scan and other modes.