

EAO-based near and far space science and technology research center

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Abstract

© 2016, International Journal of Pharmacy and Technology. All rights reserved. The purpose of this work is to propose innovative research and technical solutions to create a scientific, educational, observational and promotional world-class center for the study of near and far space. The center will be established on the basis of the Engelhardt astronomical observatory (EAO) infrastructure in Kazan Federal University (KFU) using available resources of the observatory, departments of astronomy, radio physics, radio astronomy, radio electronics. The main center's elements are described; their selection satisfies three conditions: 1) independence from climate change (for example, lack of a sufficient number of clear nights); 2) high level of technical solutions related to the center's instrumental baseline; 3) rapid adaptation to new scientific and technological realities. Special attention is paid in the work to the issues of the main specifications of the equipment and educational programs. The following devices are described: Mini-Mega TORTORA optical celestial sphere monitoring system with subsecond temporal resolution; radio telescope with a mirror of 13 m in diameter for very long baseline radio interferometry (VLBI); complex of optical telescopes with a lens diameter of at least 0.6 m, CCD photometer and adaptive optics assembly; Sazhen TM quantum-optical system for laser scanning of satellites; Planetarium's digital systems and 3DVisualization Center.

Keywords

Digital planetarium, Instrumentation: miscellaneous, Photometers, Polarimeters, Science and technology center, Techniques: high temporal resolution, Telescopes