

## PLENARY SPEAKERS

### UKRAINIAN RADIO METEOR NETWORK — DEVELOPMENT AND FIRST RESULTS

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The network of the meteor observation in the radio range consisting of 6 stations located in Mykolaiv (3 stations), Rivne, Lviv and Hlukhiv has been created. In 2017–2019 the network registered 912765 meteors. The observational data are posted on the RMOB website. Diurnal variation of meteor counts and comparison with some major meteor streams activity (Perseids, Geminids) are presented in the work.

### RADIO TELESCOPE RT-32 IN SPACE RESEARCHES

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The 32-m antenna system MARK-4B was designed and built near Zolochiv, Lviv region, Ukraine for providing USSR government communications, TV-translations with the Asia. Earth station have worked with the Intelsat system satellites. In the independent Ukraine until 2005 it provided commercial space communications as division (Space Communication Center) of Broadcasting, Radiocommunications & Television Concern. In 2017 it was transferred to the National Space Facilities Control and Test Center (NSFTC). After transfer has been founded the Space Research and Communication Center (SRCC). Shows the panorama of the SRCC. The SRCC is located in the west of Ukraine, about 100 km to Poland border.

In 1980th NEC made 6 BWG-type antennas which were in New Zealand, Switzerland, Ireland, Egypt, Tunisia, and Ukraine. Recently most of them has been converted into radio telescopes and are working in the VLBI networks. They also perform tasks for Geodesy and Astrometry. The same type antennas are designing in the USA and Russia. These antennas have a low operational expenses and good technical characteristics.

The first two steps were: upgrading cable system, creation a new control system. The next step was the creation two cryocooled C- and K- bands receivers with possibility to work together. In plans is a creation of L-, S-, X- bands receivers.

Recently the old cable wrap mechanism has been changed. So, antenna expanded the range of azimuth angles up to  $\pm 270^\circ$  and acquired capabilities to observe all sky sphere.

The new control system includes control unit (with manual and PC modes) and control computer (with special software). Control system is unique. It was designed especially for the RT-32. It is a very flexible and can be used in different projects, not only in radio astronomy.

RT-32 is observing a list of radio sources in 24/7 mode for the evaluation of aiming accuracy and receivers' tests since 01.01.2020. SRCC has possibilities for high speed data transfer and can conduct to VLBI or other networks.

The first RT-32's results are surprisingly good. They give wide possibilities for international cooperation. RT-32 will actively participate in radio astronomy research in single dish and VLBI modes. We would like to solve geodesic issues in International Earth Rotation and Reference Systems Service for International Celestial Reference System (IERS) and International Terrestrial Reference System (ICRS). NSFTC can provide meteorological, GPS and DORIS data.

We thank the Ukrainian scientists from the Institute of Radio Astronomy National Academy of Sciences of Ukraine, Scientific-production Enterprise SATURN, Ternopil Ivan Puluj National Technical University for scientific deposits in the RT-32 creation.