

First galactic maser interferometric observations in Irbene - Torun baseline

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Ventspils International Radio Astronomy Centre (VIRAC, Latvia) operates with two radio telescopes RT-16 and RT-32 accordingly with 16 and 32 m fully steerable Cassegrain type antennas. The main receiving systems of both telescopes are cryogenic receivers with 4.5 – 8.8 GHz frequency range, additionally radio telescope RT-32 equipped with L band receiver. On the both antennas data registration units are suitable for interferometric observations. The Nicolaus Copernicus University Department of Radio Astronomy in Torun, Poland, operates 32 m radio telescope, which also works in similar bands - L, C and M and regularly participate in the VLBI observations. VIRAC also has a high performance computer cluster with installed SFXC software correlator developed at JIVE.

We propose to use all three radio telescopes as regional interferometer for galactic maser observations. The possible advances of such observations would be exact coordinates of new maser sources and matching the maser sources with IR sources from GAIA catalogue. Some large-scale structures in maser sources also could be considered and measured. Participation of one or two additional European radio telescopes is very welcome and will be considered in the future, which enhance this local interferometric network with mapping ability.

In this poster we highlight the results of first VLBI test observations with baseline Irbene – Torun. Overview of VIRAC current level in the software developments related to the VLBI data processing is also given.